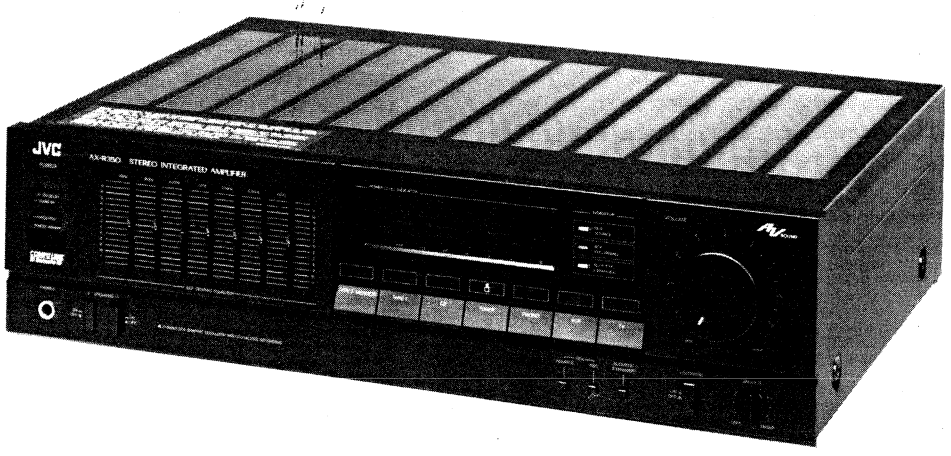
AX-R350BK

JVC

SERVICE MANUAL

STEREO INTEGRATED AMPLIFIER

MODEL No. AX-R350BK



Note: As for operating instructions, refer to AX-R450BK Service Manual (No. 2965).

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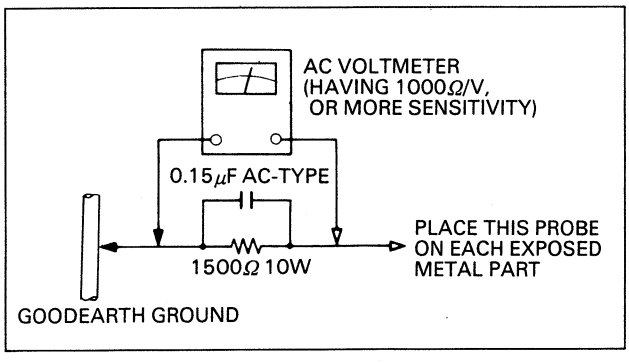
No. 2964
Jan. 1987

Safety Precautions

1. The design of this product contains special hardward and many circuits and components specially for safety purposes.
   For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting thereform.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are indentified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges or the prevention of electric shock and fire hazard.
   When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.
5. Leakage current check
   (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal pars of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).
   - Alternate check method.
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Use an AC line cord directly into the AC outlet. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



CHECK THE VOLTAGE SELECTOR'S SETTING
(Except for U.S.A., Canada, Australia, U.K. and Continental Europe.)
Before inserting the power plug, please check that the voltage selector's setting corresponds with the line voltage in your area. If it doesn't, be sure to reset the voltage selector before this equipment.
The voltage selector may be located on the rear or bottom of the unit, or underneath the platter.
CAUTION: Before setting the voltage selector to the proper voltage, disconnect the power plug.

SPECIFICATIONS

Output power : **100 watts per channel, min. RMS, both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.03 % total harmonic distortion. (U.S.A. and Canada only)**

100 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.008 % total harmonic distortion. (U.S.A. and Canada only)

Total harmonic distortion : 0.008 % at 100 watts (1 kHz, 8 ohms)

Power band width : 10 Hz – 30 kHz ('66 IHF 0.2 %, 8 ohms, both channels driven)

Frequency response : 10 Hz – 50 kHz, +0.5, -3 dB (8 ohms)

Input terminals

Input sensitivity/ impedance (1 kHz)

PHONO : 2.5 mV/47 kohms

TUNER, CD, TAPE 1, VCR, TV, TAPE 2 : 200 mV/31 kohms

Signal-to-noise ratio

PHONO : 70 dB ('66 IHF)
78 dB ('78 IHF, Rec Out)

TUNER, CD, TAPE 1, 2, VCR, TV : 97 dB ('66 IHF)
74 dB ('78 IHF, Speaker Out)

S.E.A. graphic equalizer

Center frequencies : 63 Hz, 160 Hz, 400 Hz, 1 kHz, 2.5 kHz, 6.3 kHz, 16 kHz

Control range : ±10 dB

Loudness controls (Volume control at -30 dB position) : +6 dB (at 100 Hz)
+4 dB (at 10 kHz)

PHONO RIAA deviation : ±0.5 dB (20 Hz – 20 kHz)

GENERAL

Power source : See back page

Dimensions and weight :

Dimensions (cm)			Weight (kg/lbs)
Width	Height	Depth	
43.5 (17-3/16")	11.7 (4-5/8")	34.5 (13-5/8")	8/17.6

Design and specifications subject to change without notice.

CARACTERISTIQUES TECHNIQUES

Puissance de sortie : 100 watts par canal, min. RMS, les deux canaux entraînés à 8 ohms de 20 Hz à 20 kHz, avec moins de 0,03 % de distorsion harmonique totale. (Etats-Unis et Canada seulement)

100 watts par canal, min. RMS, les deux canaux entraînés à 8 ohms à 1 kHz, avec moins de 0,008 % de distorsion harmonique totale. (Etats-Unis et Canada seulement)

Distorsion harmonique totale : 0,008 % à 100 watts (1 kHz, 8 ohms)

Largeur de gamme de puissance : 10 Hz – 30 kHz ('66 IHF 0,2 %, 8 ohms, les deux canaux entraînés)

Réponse en fréquence : 10 Hz – 50 kHz, +0,5, -3 dB (8 ohms)

Bornes d'entrée

Sensibilité d'entrée/ impédance (1 kHz)

PHONO : 2,5 mV/47 kohms

TUNER, CD, TAPE 1, VCR, TV, TAPE 2 : 200 mV/31 kohms

Rapport signal/bruit

PHONO : 70 dB ('66 IHF)
78 dB ('78 IHF, sortie d'enregistrement)

TUNER, CD, TAPE 1, 2, VCR, TV : 97 dB ('66 IHF)
74 dB ('78 IHF, sortie de haut-parleurs)

Egaliseur graphique S.E.A.

Fréquences centrales : 63 Hz, 160 Hz, 400 Hz, 1 kHz, 2,5 kHz, 6,3 kHz, 16 kHz

Gamme de commande : ±10 dB

Commandes de contour (Commande de volume à -30 dB) : +6 dB (à 100 Hz)
+4 dB (à 10 kHz)

Déviation PHONO RIAA : ±0,5 dB (20 Hz – 20 kHz)

GENERALES

Alimentation : Voir page arrière

Dimensions et poids :

Dimensions (cm)			Poids (kg)
Largeur	Hauteur	Profondeur	
43,5	11,7	34,5	8

Présentation et caractéristiques modifiables sans préavis.

POWER SPECIFICATIONS

Areas	Line Voltage & Frequency	Power Consumption
U.S.A.	AC 120 V∿, 60 Hz	370 watts
Canada		370 watts, 480 VA

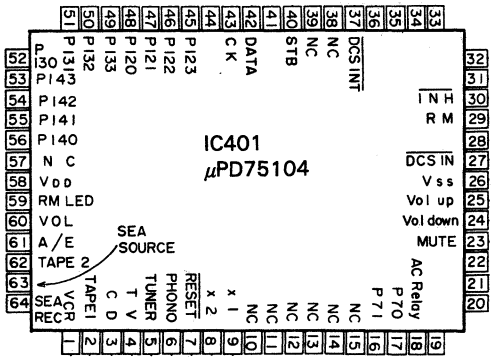
CARACTERISTIQUES D'ALIMENTATION

Pays	Tension de ligne et fréquence	Consommation
Etats-Unis	CA 120 V∿, 60 Hz	370 watts
Canada		370 watts, 480 VA

Explanation of LSI

■ μPD75104G525-1B (IC401)

(1) External diagram



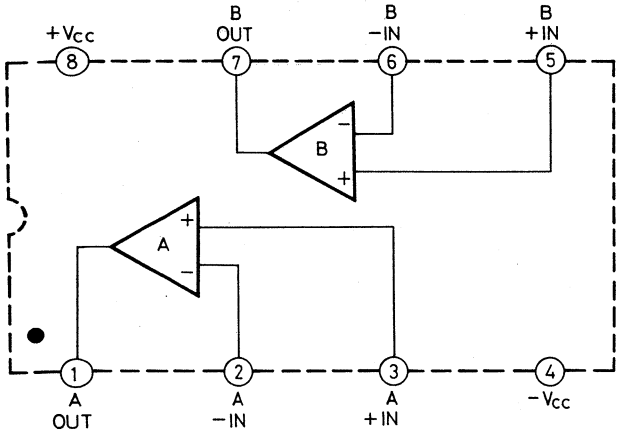
(2) Pin Functions

Pin No.	Symbol	I/O	Terminal Function
1	P41	O	VCR (LED)
2	P40	O	TAPE 1 (LED)
3	P53	O	CD (LED)
4	P52	O	TV (LED)
5	P51	O	TUNER (LED)
6	P50	O	PHONO (LED)
7	$\overline{\text{RESET}}$	–	——
8	X2	–	——
9	X1	–	——
10	NC	O	——
11	NC	O	——
12	NC	O	——
13	NC	O	——
14	NC	O	——
15	NC	–	——
16	P71	–	——
17	P70	–	——
18	P83	O	AC relay ON/OFF
19	P82	–	——
20	P81	O	——
21	P80	O	——
22	P93	–	——
23	P92	O	MUTE
24	P91	O	VOL DOWN
25	P90	O	VOL UP
26	Vss	–	——
27	P13/INT3	I	DCS IN
28	P12/INT2	–	——
29	P11/INT1	I	RM IN
30	PIO/INTO	I	INH
31	PTH03	–	——
32	PTH02	–	——

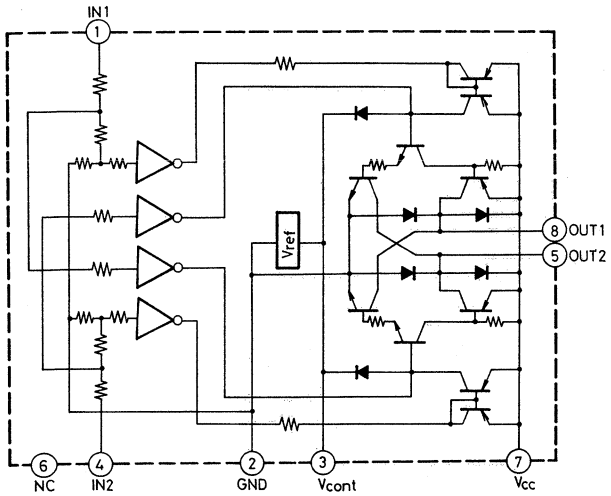
Pin No.	Symbol	I/O	Terminal Function
33	PTH01	–	——
34	PTH00	–	——
35	T10	–	——
36	T11	–	——
37	$\overline{\text{DCS INT}}$	O	DCS OUT
38	NC	–	——
39	NC	–	——
40	P20/PT00	O	STB
41	P03/S1	–	——
42	P02/S0	O	SI..... TC9164
43	P01/SCK	O	CK..... TC9162
44	P00/INT4	–	——
45	P123	I	KEY IN
46	P122	I	KEY IN
47	P121	I	KEY IN
48	P120	I	KEY IN
49	P133	I	KEY IN
50	P132	I	KEY IN
51	P131	I	KEY IN
52	P130	I	KEY IN
53	P143	I	TEST (active H)
54	P142	I	CS3 (preparation)
55	P141	I	CS2 (relay)
56	P140	I	CSI (4/3 RS)
57	NC	–	——
58	Vdd	–	——
59	P33	O	RM IND (LED)
60	P32	O	VOL IND (LED)
61	P31	O	A/E IND (LED)
62	P30	O	TAPE 2 (LED)
63	P43	O	SEA SOURCE (LED)
64	P42	O	SEA REC (LED)

Internal Block Diagrams of ICs

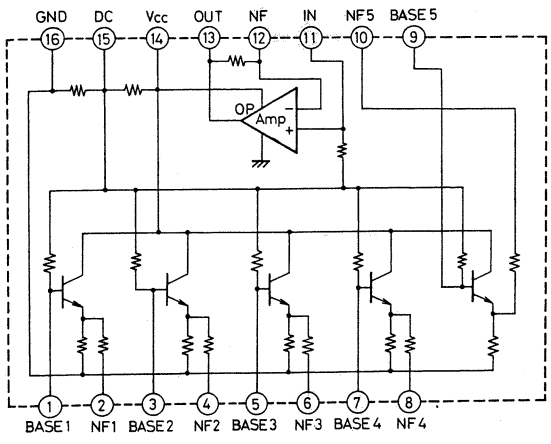
■ NJM4558DD (IC301, IC503) NJM4560DX (IC504) M5218P (IC503, IC582)



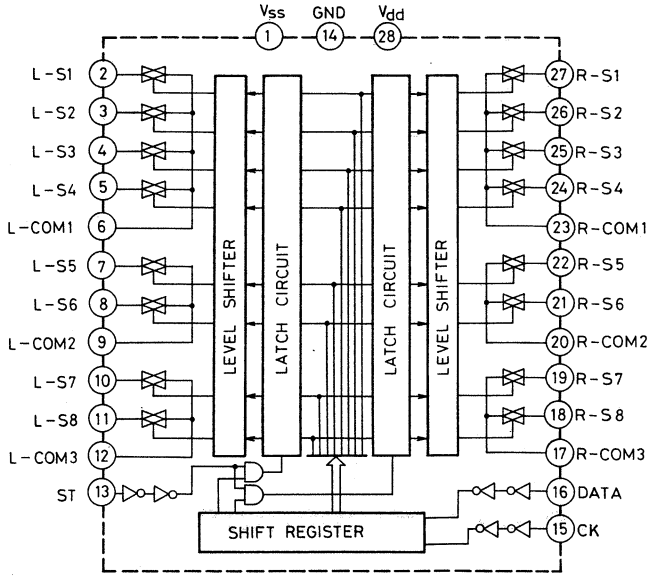
■ LB1639 (IC351)



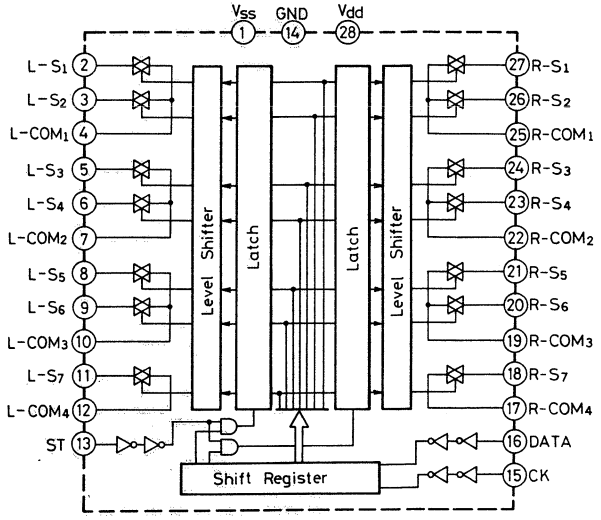
■ LA3600 (IC501, IC502)



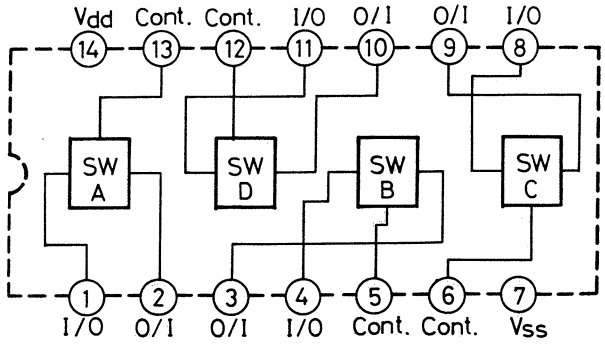
■ TC9164N (IC361)



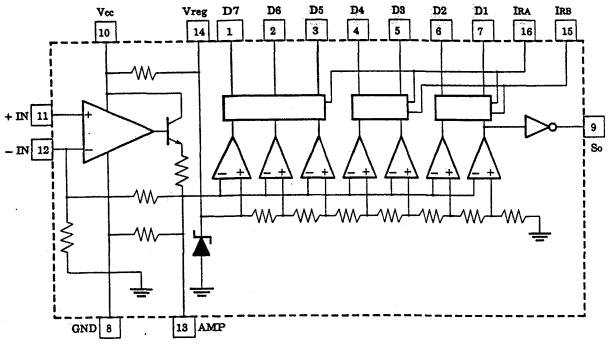
■ TC9162N (IC362)



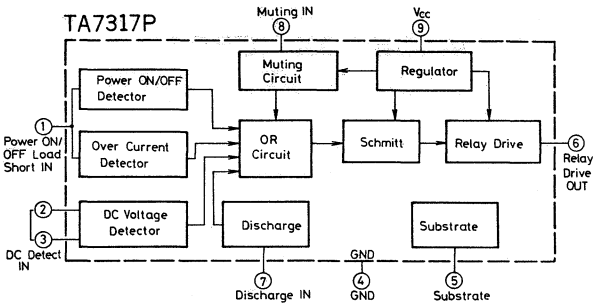
■ LC4966 (IC581)



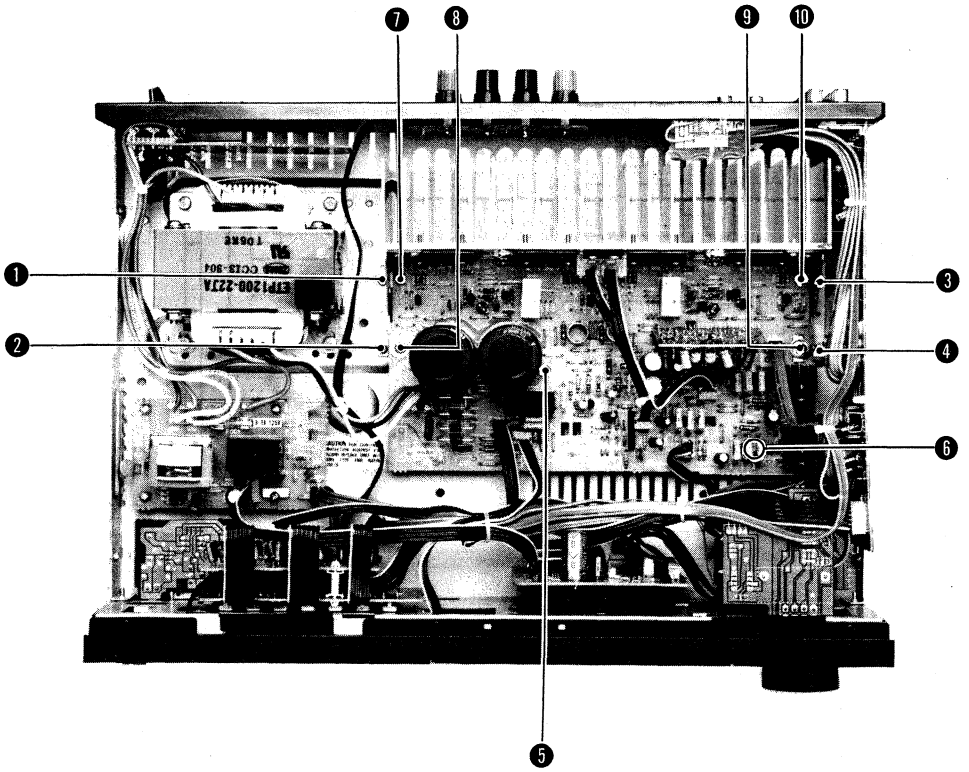
■ IR2E19 (IC441, IC442)



■ TA7317P (IC901)



Removal Procedures



■ Removing the Metal Cover

1. Remove six screws.
2. Remove the Metal Cover by lifting up its rear section and pulling it backward while holding it on incline.

■ Removing the Front Panel

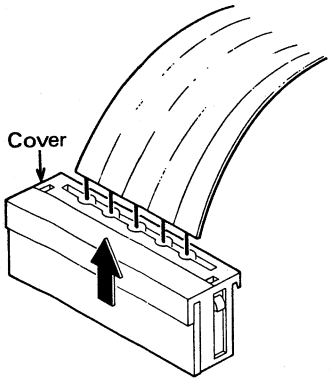
1. Remove the metal cover.
2. Remove three plastic rivets on the upper part of the front panel and three screws from the lower part.
3. Pull out the volume knob and remove the front panel.

■ Removing the Power Transistors

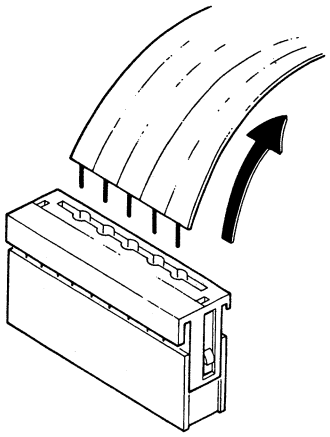
1. Remove the metal cover.
2. Remove screws ❶ – ❺.
3. Remove PC board retaining fastener ❻ located under R809.
4. Raise the main amp PC board so that the pattern side faces up.
5. Remove solder from the power transistors.
6. Remove screws ❼ – ❿ and remove the heatsinks together with the power transistors.
7. Remove the retaining screw from the defective power transistor and replace it.

■ Use of New-type Connector

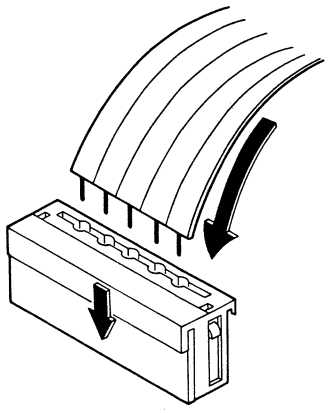
(1) Slide the cover upward.



(2) Extract the wires.

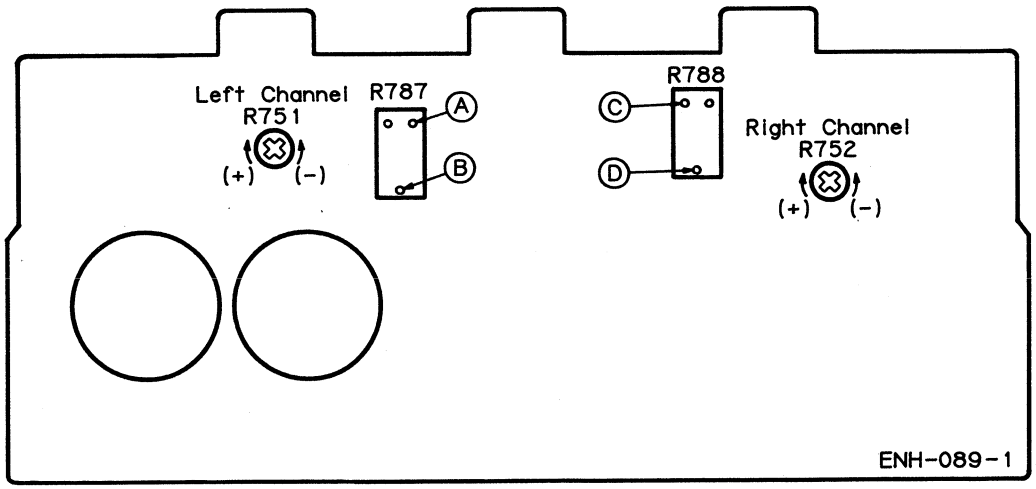


(3) Insert the wires after pushing in the cover.



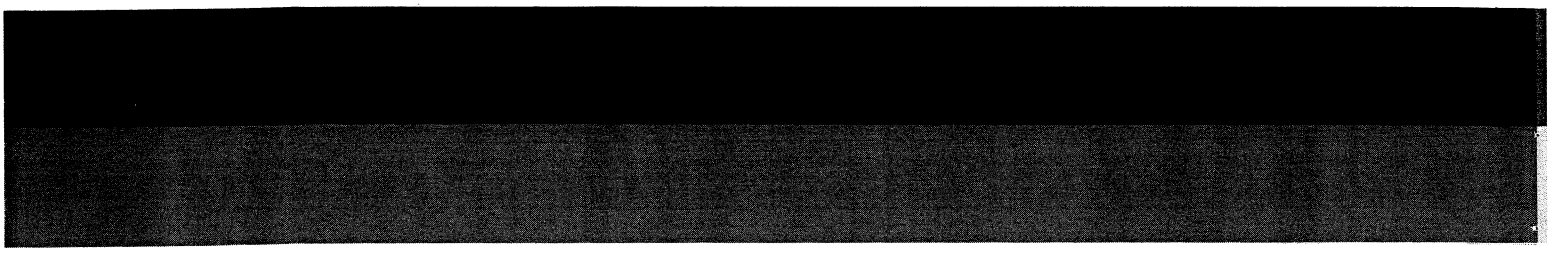
Adjustment Procedures

■ Power Amplifier Idling Adjustment



1. Before tuning on the power, turn the semi-fixed resistors (R751 for L channel and R752 for R channel) of the power amplifier circuit board fully counterclockwise.
2. Adjust the semi-fiexed resistur (R751 and R752) so that the voltage at the following test points of the power amplifier circuit board is within a range of 0.5 mV after the power is turned on.
   L channel: Measure the voltage between test point Ⓐ (emitter of Q769) and output at the test point Ⓑ.
   R channel: Meaure the voltage between test point Ⓒ (emitter of Q770) and output at the test point Ⓓ.
3. Readjust resistors R751 and R752 about 10 minutes after the power is turned on (the heatsink temperature must be sufficiently high) so that the voltage at the test points becomes 5 mV.
   Confirm that the voltage does not vary when the heatsink temperature increases further.
   Note: Be sure to perform the measurement with the probes and cabinet of the measuring equipment separated from the grounding terminals of AX-R350BK or other measuring equipment.

AX-R350BK



JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO PRODUCTS DIVISION, YAMATO PLANT, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

(No. 2964)

Printed in Japan
8701 G

PARTS LIST

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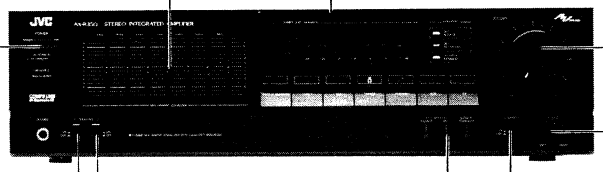
Main Parts Locations

■ Front View



E73847-001
Slide Knob

E24719-010
Metal Cover

E72808-001
Push Button

E304407-002
Volume Knob Ass'y

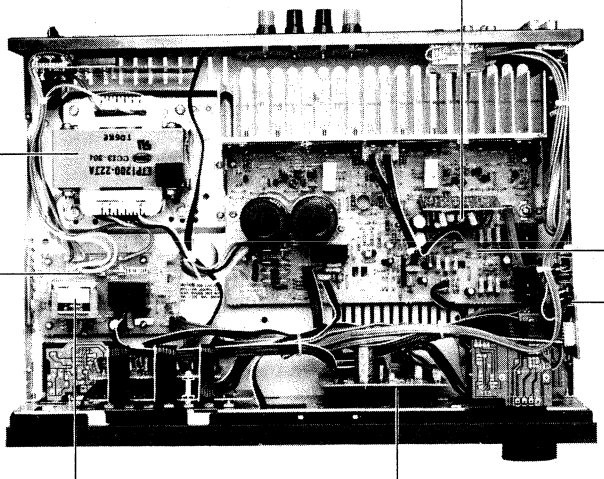
E72517-004
Knob

E73835-001
Push Button

E73835-001
Push Button

E354556-001
Push Button

■ Top View



ENG-004M
Pre-Drive PC Board Ass'y

ETP1200-22JA
Power Transformer ⚠

QMF51U1-6R3
Fuse ⚠

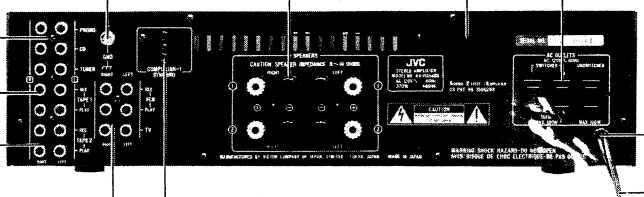
ENH-089C
Power Amplifier
PC Board Ass'y

ENE-033C
Analog Switch & Pin Jack
PC Board Ass'y

ETP1000-42JA
Power Transformer ⚠

ENF-033A
Logic & Tact PC Board Ass'y

■ Rear View



E70078-001
GND. Terminal

EMB00TP-801C
Speaker Terminal

E25549-003
Rear Panel

QMC0638-001
AC Socket ⚠

EMN00TV-405A
Pin Jack Ass'y

EMN00TV-602A
Pin Jack Ass'y

EMN00TV-402A
Pin Jack Ass'y

QHS3876-162
Cord Stopper ⚠

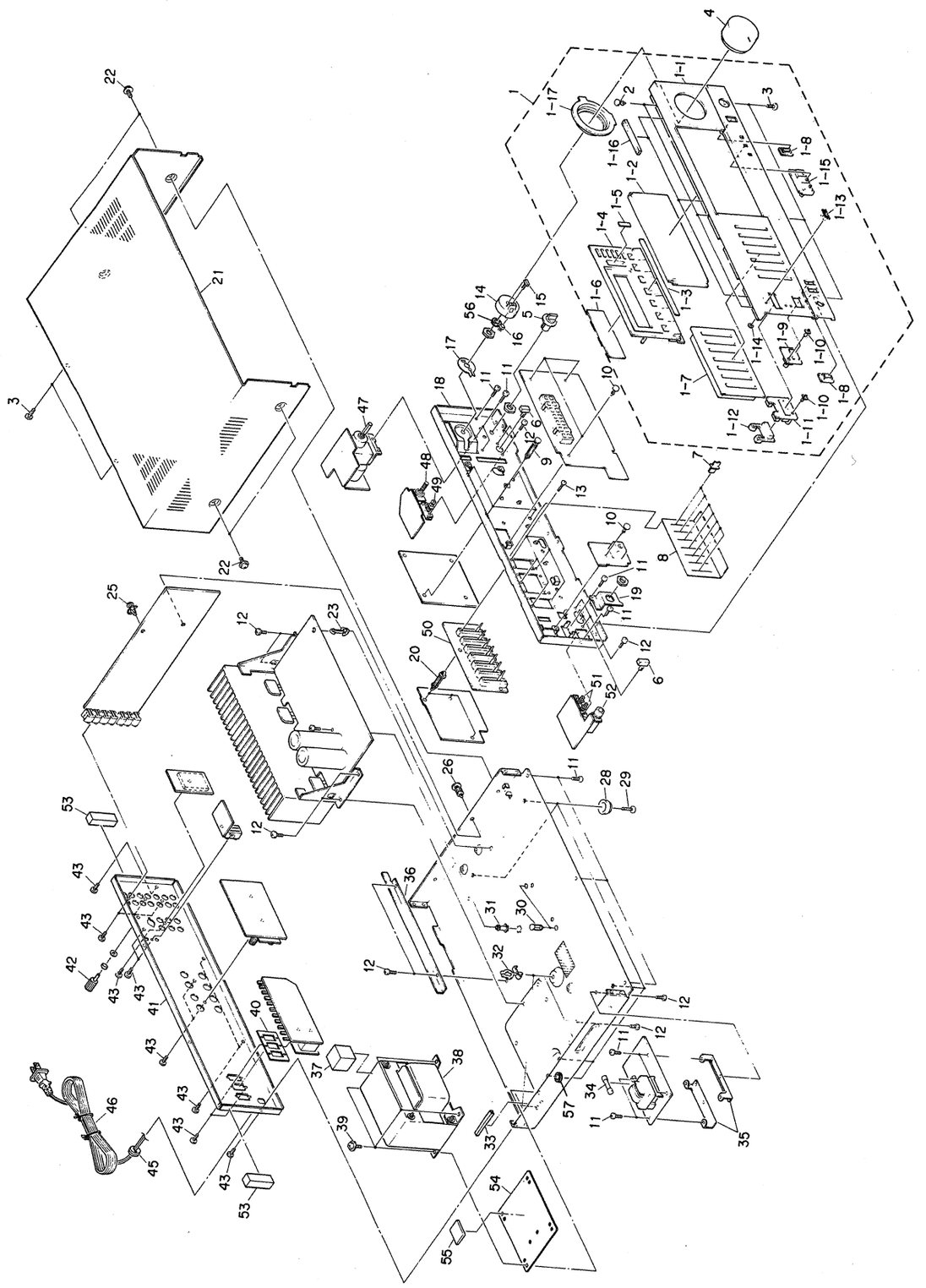
QMP1480-200H
Power Cord ⚠

QMS3533-001
Jack Ass'y

EMN00TP-602A
Pin Jack Ass'y

⚠: Safety parts

Exploded Views and Parts List



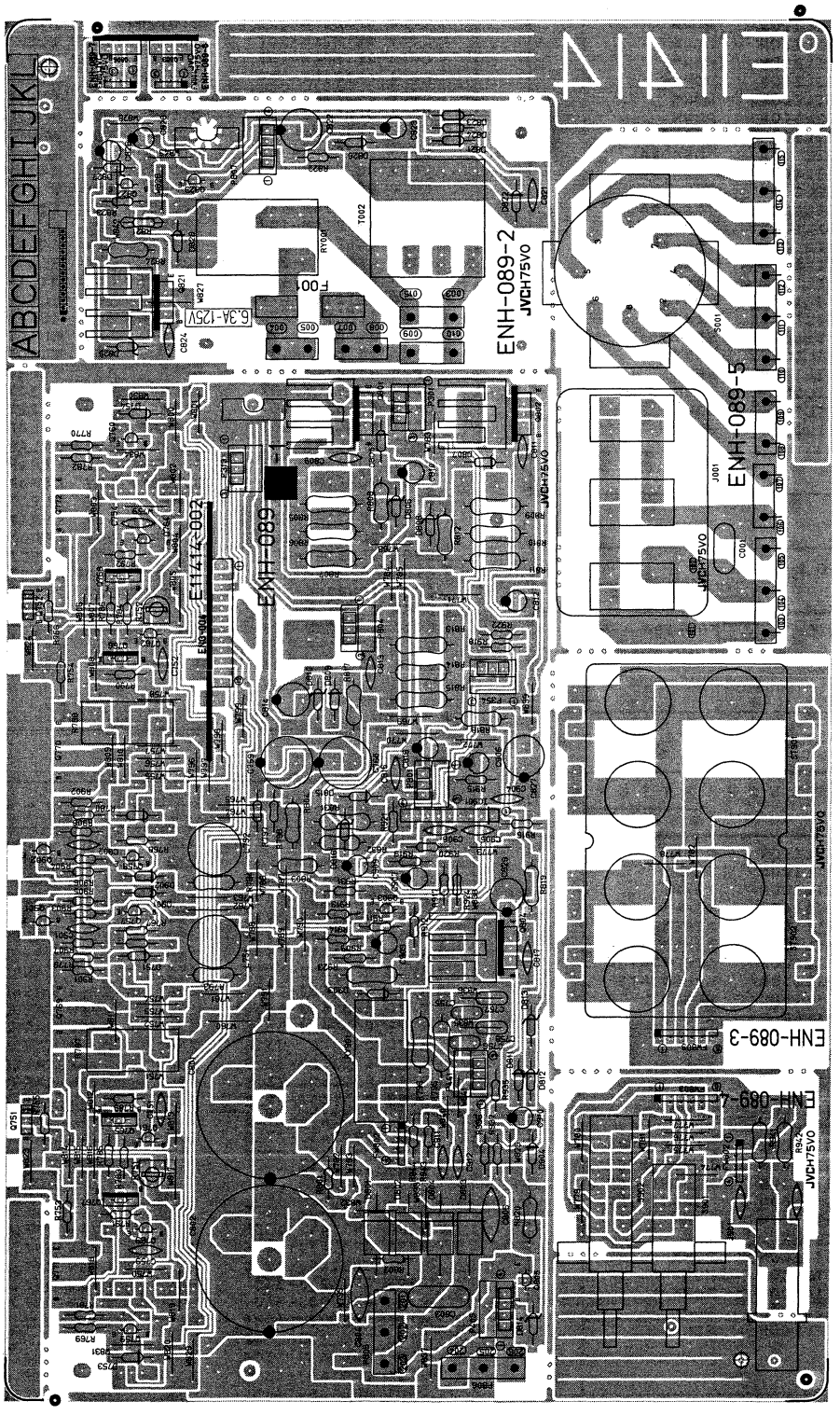
Exploded View and Parts List

⚠	Item No.	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-AXR350BKJ	Front Panel Ass'y	1		
	1-1	E25557-001	Front Panel	1		
	1-2	E304559-001	Window Screen	1		
	1-3	E72437-008	Indicator Sheet	1		
	1-4	E25587-002	FL Escutcheon Ass'y	1		
	1-5	E72437-009	Indicator Sheet	1		
	1-6	E304561-001	Indicator Sheet	1		
	1-7	E25548-001	Knob Escutcheon	1		
	1-8	E73836-001	Push Button Escutcheon	3		
	1-9	E73509-001	Screen	1		
	1-10	E73522-001	Indicator	2		
	1-11	E304591-001	Push Button Escutcheon	1		
	1-12	E72808-001	Push Button	1		
	1-13	E72968-001	JVC Mark	1		
	1-14	E60912-003	Speed Nut	1		
	1-15	E304556-001	Push Button	1		
	1-16	EXO060007N40S	Felt Spacer	1		
	1-17	E73513-001	Volume Knob Escutcheon	3		
	2	E48729-009	Plastic Rivet	3		
	3	SBSE3008M	Screw	5		
	4	E304407-002	Volume Knob Ass'y	1		
	5	E72517-004	Knob	1		
	6	E73835-001	Push Button	3		
	7	E73847-001	Slide Knob	7		
	8	E304651-001	Felt Spacer	1		
	9	E303216-004	Fastener	4		
	10	E48729-008	Plastic Rivet	3		
	11	SBSB3008N	Screw	12		
	12	SBST3006CC	Screw	6		
	13	E70053-001	Screw	11		
	14	E304320-002	Holder	1		
	15	SLT-25VR52F	L.E.D.	1		
	16	EWS142-005	Socket Wire Ass'y	1		
	17	E73905-001	Sheet	1		
	18	E11425-001	Front Bracket	1		
	19	E73218-001	Headphone Bracket	1		
	20	E300796-002	Fastener	3		
	21	E24719-010	Metal Cover	1		
	22	E61660-004	Screw	4		
	23	E300167-001	Fastener	1		
	24	GBSB3008CC	Screw	1		
	25	E69384-002	Fastener	1		
	26	E303216-003	Fastener	1		
	27	E10653-012	Chassis Base	1		
	28	E47227-011	Foot	5		
	29	SBSB3008Z	Screw	5		
	30	E49383-002	Fastener	2		
	31	E49946-002	C.B. Holder	1		
	32	E303704-001	Fastener	2		
	33	E65778-002	Spacer	1		
⚠	34	QMF51U1-6R3	Fuse	1		
	35	E69902-002	C.B. Holder	2		
	36	E303585-001	Bracket	1		for Canada
	37	E3400-375	Felt Spacer	1		
⚠	38	ETP1200-22JA	Power Transformer	1		
	39	E65389-004	Screw	4		
	40	E69589-010	Spacer	1		for U.S.A.
	41	E25549-003	Rear Panel	1		
	42	E70078-001	GND. Terminal	1		
	43	E73273-001	Screw	12		
	44	SDSB3008M	Screw	2		
⚠	45	QHS3876-162	Cord Stopper	1		
⚠	46	QMP1480-200H	Power Cord	1		
	47	QVDB91B-EF5B	Variable Resistor	1		
	48	QVDA98W-EF5B	Variable Resistor	1		
	49	QST4102-E08	Push Switch	1		
	50	QVUB01W-EF5D	Variable Resistor	7		
	51	QST4241-E10	Push Switch	2		
	52	QMS6A40-021	Jack Ass'y	1		
	53	EXO085010R10S	Spacer	2		
	54	E73603-002	Spacer	1		
	55	EXO045045R20S10	Spacer	1		
	56	E74070-001	Spacer	1		
	57	WNS4000N	Washer	1		

⚠ : Safety Parts

Printed Circuit Board Ass'y and Parts List

■ ENH-089C Power Amplifier PC Board Ass'y



■ Parts List

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	Q751	2SD636(Q,R)	SILICON	MATSUSHITA	
	Q752	2SD636(Q,R)	SILICON	MATSUSHITA	
	Q757	2SC1740LN(R,S)	SILICON	ROHM	
	Q758	2SC1740LN(R,S)	SILICON	ROHM	
	Q759	2SA933LN(R,S)	SILICON	ROHM	
	Q760	2SA933LN(R,S)	SILICON	ROHM	
	Q761	2SC2389(S,E)	SILICON	ROHM	
	Q762	2SC2389(S,E)	SILICON	ROHM	
	Q763	2SA1038(S,E)	SILICON	ROHM	
	Q764	2SA1038(S,E)	SILICON	ROHM	
	Q765	2SC2235(O,Y)	SILICON	TOSHIBA	
	Q766	2SC2235(O,Y)	SILICON	TOSHIBA	
	Q767	2SA965(O,Y)	SILICON	TOSHIBA	
	Q768	2SA965(O,Y)	SILICON	TOSHIBA	
	Q769	2SD845LB(O,R)	SILICON	TOSHIBA	
	Q770	2SD845LB(O,R)	SILICON	TOSHIBA	
	Q771	2SB755LB(O,R)	SILICON	TOSHIBA	
	Q772	2SB755LB(O,R)	SILICON	TOSHIBA	
	Q801	2SD1666(R,S)	SILICON	SANYO	
	Q802	2SD1666(R,S)	SILICON	SANYO	
	Q803	2SB1133(R,S)	SILICON	SANYO	
	Q806	2SD1666(R,S)	SILICON	SANYO	
	Q822	2SD1666(R,S)	SILICON	SANYO	
	Q823	DTC114YN	SILICON	ROHM	
	Q901	2SC2389(S,E)	SILICON	ROHM	
	Q902	2SC2389(S,E)	SILICON	ROHM	
	Q903	2SA1038(S,E)	SILICON	ROHM	

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	IC901	TA7317P	I.C.	TOSHIBA	

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D751	1S2473	SILICON	ROHM	
	D752	1S2473	SILICON	ROHM	
	D753	1S2473	SILICON	ROHM	
	D754	1S2473	SILICON	ROHM	
	D801	30DL2FC	SILICON	NIHONINTER	
	D802	30DL2FC	SILICON	NIHONINTER	
	D803	30DL2FC	SILICON	NIHONINTER	
	D804	30DL2FC	SILICON	NIHONINTER	
	D805	1S2473	SILICON	ROHM	
	D806	RD16EB3	ZENER	NEC	
	D807	1S2473	SILICON	ROHM	
	D808	RD15EB3	ZENER	NEC	
	D809	1S2473	SILICON	ROHM	
	D810	RD16EB3	ZENER	NEC	
	D815	1S2473	SILICON	ROHM	
	D816	RD5.6EB3	ZENER	NEC	
	D821	11E2	SILICON	NIHONINTER	
	D822	11E2	SILICON	NIHONINTER	
	D823	11E2	SILICON	NIHONINTER	
	D824	11E2	SILICON	NIHONINTER	
	D826	1S2473	SILICON	ROHM	
	D827	RD6.2EB3	ZENER	NEC	
	D828	1S2473	SILICON	ROHM	
	D901	1S2473	SILICON	ROHM	
	D902	1S2473	SILICON	ROHM	
	D903	1S2473	SILICON	ROHM	
	D904	1S2473	SILICON	ROHM	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C001	QCZ9019-472	4700PF	400V	CERAMIC	
	C751	QCS22HJ-470A	47PF	500V	CERAMIC	
	C752	QCS22HJ-470A	47PF	500V	CERAMIC	
	C753	QCS22HJ-470A	47PF	500V	CERAMIC	
	C754	QCS22HJ-470A	47PF	500V	CERAMIC	
	C755	QFN81HK-223	0.022MF	50V	MYLAR	
	C756	QFN81HK-223	0.022MF	50V	MYLAR	
	C759	QETB2AM-107	100MF	100V	ELECTRO	
	C760	QETB2AM-107	100MF	100V	ELECTRO	
	C801	EEZ7101-109	10000MF	71V	ELECTRO	
	C802	EEZ7101-109	10000MF	71V	ELECTRO	
	C803	QFH42EK-104	0.1MF	250V	M.MYLAR	
	C804	EFZ0091-103	0.01MF	630V	M.MYLAR	
	C805	EFZ0091-103	0.01MF	630V	M.MYLAR	
	C809	QCF21HP-472	4700PF	50V	CERAMIC	
	C810	QETB1EM-227	220MF	25V	ELECTRO	
	C811	QCF21HP-472	4700PF	50V	CERAMIC	
	C812	QETB1CM-107	100MF	16V	ELECTRO	
	C813	QCF21HP-472	4700PF	50V	CERAMIC	
	C814	QETB1EM-227	220MF	25V	ELECTRO	
	C815	QFM82AJ-472	4700PF	100V	MYLAR	
	C816	QETB1CM-476	47MF	16V	ELECTRO	
	C821	QCF21HP-473	0.047MF	50V	CERAMIC	
	C822	QETB1CM-477	470MF	16V	ELECTRO	
	C823	QETB1HM-105	1MF	50V	ELECTRO	
	C826	QETB1CM-476	47MF	16V	ELECTRO	
	C827	QETB1CM-107	100MF	16V	ELECTRO	
	C828	QETB1AM-107	100MF	10V	ELECTRO	
	C831	QFN42AK-103	0.01MF	100V	MYLAR	
	C832	QFN42AK-103	0.01MF	100V	MYLAR	
	C901	QCF21HP-223	0.022MF	50V	CERAMIC	
	C902	QCF21HP-223	0.022MF	50V	CERAMIC	
	C903	QETB1EM-226	22MF	25V	ELECTRO	
	C904	QCF21HP-223	0.022MF	50V	CERAMIC	
	C905	QCY21HK-102	1000PF	50V	CERAMIC	
	C906	QETB1AM-476	47MF	10V	ELECTRO	
	C907	QETB2AM-474	0.47MF	100V	ELECTRO	
	C908	QFN81HK-153	0.015MF	50V	MYLAR	
	C909	QETB1CM-226	22MF	16V	ELECTRO	
	C910	QETB1HM-105	1MF	50V	ELECTRO	
	C911	QCF21HP-103	0.01MF	50V	CERAMIC	
	C912	QCF21HP-103	0.01MF	50V	CERAMIC	

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R751	QVPC604-471	470	0.3W	VARIABLE	
	R752	QVPC604-471	470	0.3W	VARIABLE	
	R753	QRD148J-152S	1.5K	1/4W	CARBON	
	R754	QRD148J-152S	1.5K	1/4W	CARBON	
	R755	QRD148J-391S	390	1/4W	CARBON	
	R756	QRD148J-391S	390	1/4W	CARBON	
	R767	QRD148J-151S	150	1/4W	CARBON	
	R768	QRD148J-151S	150	1/4W	CARBON	
	R769	QRD148J-151S	150	1/4W	CARBON	
	R770	QRD148J-151S	150	1/4W	CARBON	
	R779	QRD148J-331S	330	1/4W	CARBON	
	R780	QRD148J-331S	330	1/4W	CARBON	
	R781	QRD148J-331S	330	1/4W	CARBON	
	R782	QRD148J-331S	330	1/4W	CARBON	
⚠	R783	QRD145J-272S	2.7K	1/4W	UNF.CARBON	
⚠	R784	QRD145J-272S	2.7K	1/4W	UNF.CARBON	
⚠	R785	QRD145J-271S	270	1/4W	UNF.CARBON	
⚠	R786	QRD145J-271S	270	1/4W	UNF.CARBON	
	R787	ERF032K-R22	0.22	3W	CEMENT	
	R788	ERF032K-R22	0.22	3W	CEMENT	
⚠	R789	QRD145J-100S	10	1/4W	UNF.CARBON	
⚠	R790	QRD145J-100S	10	1/4W	UNF.CARBON	
⚠	R791	QRD145J-100S	10	1/4W	UNF.CARBON	
⚠	R792	QRD145J-100S	10	1/4W	UNF.CARBON	
⚠	R793	QRD125J-330	33	1/2W	UNF.CARBON	
⚠	R794	QRD125J-330	33	1/2W	UNF.CARBON	
⚠	R795	QRG022J-100A	10	2W	O.M.FILM	
⚠	R796	QRG022J-100A	10	2W	O.M.FILM	
⚠	R797	QRD145J-330S	33	1/4W	UNF.CARBON	
⚠	R798	QRD145J-330S	33	1/4W	UNF.CARBON	
	R801	QRD148J-333S	33K	1/4W	CARBON	
	R802	QRD148J-333S	33K	1/4W	CARBON	
⚠	R803	QRD125J-2R2	2.2	1/2W	UNF.CARBON	
⚠	R804	QRD125J-220	22	1/2W	UNF.CARBON	
⚠	R805	QRG022J-152A	1.5K	2W	O.M.FILM	
⚠	R806	QRG022J-152A	1.5K	2W	O.M.FILM	
⚠	R807	QRG022J-152A	1.5K	2W	O.M.FILM	
⚠	R808	QRD125J-822	8.2K	1/2W	UNF.CARBON	
⚠	R809	QRG022J-561A	560	2W	O.M.FILM	
⚠	R810	QRG022J-561A	560	2W	O.M.FILM	

⚠ : SAFETY PARTS

Resistors

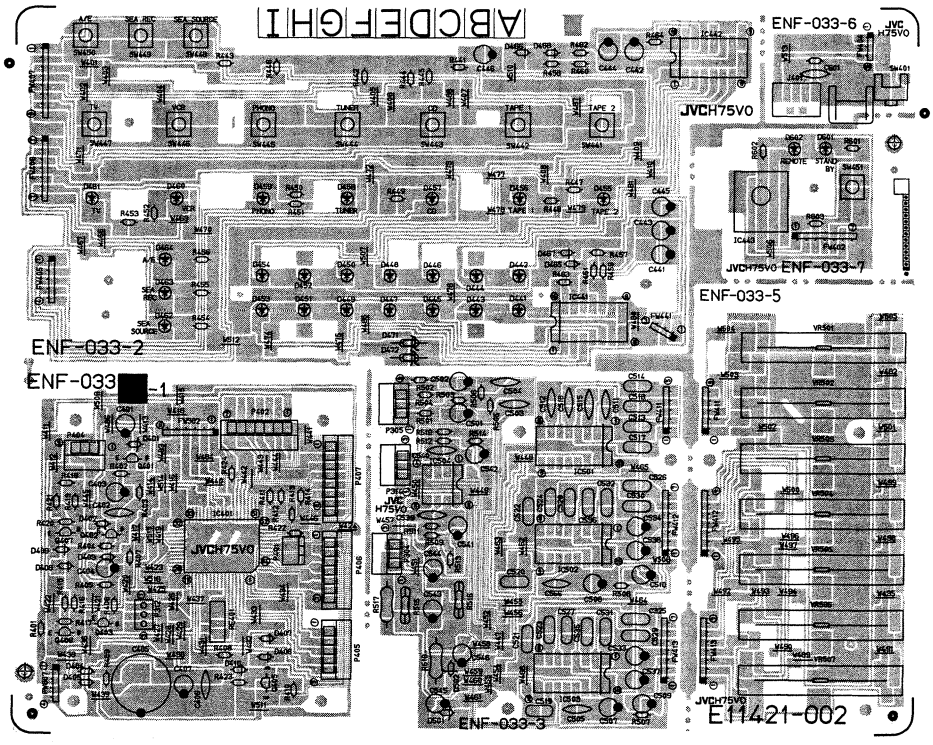
⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R811	QRG022J-561A	560	2W	O.M.FILM	
⚠	R812	QRD125J-822	8.2K	1/2W	UNF.CARBON	
⚠	R813	QRG022J-152A	1.5K	2W	O.M.FILM	
⚠	R814	QRG022J-152A	1.5K	2W	O.M.FILM	
⚠	R815	QRG022J-152A	1.5K	2W	O.M.FILM	
	R905	QRD148J-123S	12K	1/4W	CARBON	
	R906	QRD148J-123S	12K	1/4W	CARBON	
	R907	QRD148J-152S	1.5K	1/4W	CARBON	
	R908	QRD148J-152S	1.5K	1/4W	CARBON	
	R909	QRD148J-103S	10K	1/4W	CARBON	
	R911	QRD148J-332S	3.3K	1/4W	CARBON	
	R912	QRD148J-473S	47K	1/4W	CARBON	
	R913	QRD148J-104S	100K	1/4W	CARBON	
	R914	QRD148J-823S	82K	1/4W	CARBON	
	R915	QRD148J-473S	47K	1/4W	CARBON	
	R916	QRD148J-563S	56K	1/4W	CARBON	
	R917	QRD148J-683S	68K	1/4W	CARBON	
	R918	QRD148J-392S	3.9K	1/4W	CARBON	
	R919	QRD148J-392S	3.9K	1/4W	CARBON	
	R920	QRD148J-333S	33K	1/4W	CARBON	
	R921	QRD148J-224S	220K	1/4W	CARBON	
	R922	QRD148J-562S	5.6K	1/4W	CARBON	
⚠	R923	QRG022J-182A	1.8K	2W	O.M.FILM	
⚠	R931	QRD145J-470S	47	1/4W	UNF.CARBON	
	R935	QRD148J-822S	8.2K	1/4W	CARBON	
	R936	QRD148J-682S	6.8K	1/4W	CARBON	
	R937	QRD148J-472S	4.7K	1/4W	CARBON	
⚠	R941	QRG022J-471A	470	2W	O.M.FILM	
⚠	R942	QRG022J-471A	470	2W	O.M.FILM	
	R943	QRD148J-153S	15K	1/4W	CARBON	
	R944	QRD148J-153S	15K	1/4W	CARBON	

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMB00TP-801C	SPK.TERMINAL	
		EMG7331-001	FUSE CLIP	
		ENG-004M	PRE DRIVER ASSY	
		E11414-003	C.BOARD	
		E300107-005	C.B HOLDER	
		E300107-006	C.B HOLDER	
		E300209-018	HEAT SINK	
		E33754-001	TIE BAND	
		E61380-030	FUSE LABEL	
		E65508-002	TAB	
		E67548-001	PLATE	
		E67764-102	R.TERMINAL	
		E67764-202	R.TERMINAL	
		E67764-303	R.TERMINAL	
		E70859-001	EARTH PLATE	
		E70859-001	EARTH PLATE	
		E70945-H25B	HEAT SINK	
		E70945-H25B	HEAT SINK	
		E73265-001	SPCL SCREW	
		SBSB3008CC	T.SCREW	
		SBSB3008CC	T.SCREW	
		SBSB3008CC	T.SCREW	
		SBSB3008CC	T.SCREW	
		SBSB3008CC	T.SCREW	
		SBSE3016CC	SCREW	
⚠	J001	QMC0638-001	AC SOCKET	
	J901	QMS6A40-021	JACK ASSY	
	L751	EQL0101-1R2	INDUCTOR	
	L752	EQL0101-1R2	INDUCTOR	
	P301	EMV7112-003	SOCKET	
	P313	EMV7112-003	SOCKET	
	P354	EMV7112-003	SOCKET	
	P441	EMV7112-003	SOCKET	
	P801	EMV7112-003	SOCKET	
	P804	EMV7112-003	SOCKET	
	P805	E67764-103	R.TERMINAL	
	P807	EMV7112-004	SOCKET	
	S901	QST4241-E10	PUSH SWITCH	
	S902	QST4241-E10	PUSH SWITCH	
⚠	T002	ETP1000-42JA	POWER TRANSF.	
	RY001	ESK1D12-113	RELAY	
	RY901	ESK5D24-218	RELAY	

■ ENF-033A Logic & Tact Switch PC Board Ass'y

⚠ : SAFETY PARTS



Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	Q401	DTC144EN	SILICON	ROHM	
	Q402	2SC458(C,D)	SILICON	HITACHI	
	Q403	2SC458(C,D)	SILICON	HITACHI	
	Q405	DTA144EN	SILICON	ROHM	
	Q406	2SC458(C,D)	SILICON	HITACHI	
	Q407	2SC458(C,D)	SILICON	HITACHI	

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	IC401	UPD75104G-525	I.C.	NEC	
	IC441	IR2E19	I.C.	SHARP	
	IC442	IR2E19	I.C.	SHARP	
	IC443	GP1U501	I.C.	SHARP	
	IC501	LA3600S	I.C.	SANYO	
	IC502	LA3600S	I.C.	SANYO	
	IC503	LA3600S	I.C.	SANYO	
	IC504	NJM4560D-X	I.C.		

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D401	MTZ5.6JC	ZENER	ROHM	
	D402	1SS133	SILICON	ROHM	
	D403	1SS133	SILICON	ROHM	
	D404	1SS133	SILICON	ROHM	
	D405	1SS133	SILICON	ROHM	
	D406	1SS133	SILICON	ROHM	
	D407	1SS133	SILICON	ROHM	
	D408	1SS133	SILICON	ROHM	
	D409	1SS133	SILICON	ROHM	
	D410	1SS133	SILICON	ROHM	
	D411	1SS133	SILICON	ROHM	
	D412	1SS133	SILICON	ROHM	
	D413	1SS133	SILICON	ROHM	
	D441	SLV-31DC3F	L.E.D.	ROHM	
	D442	SLV-31DC3F	L.E.D.	ROHM	
	D443	SLV-31DC3F	L.E.D.	ROHM	
	D444	SLV-31DC3F	L.E.D.	ROHM	
	D445	SLV-31DC3F	L.E.D.	ROHM	
	D446	SLV-31DC3F	L.E.D.	ROHM	
	D447	SLV-31DC3F	L.E.D.	ROHM	
	D448	SLV-31DC3F	L.E.D.	ROHM	
	D449	SLV-31DC3F	L.E.D.	ROHM	
	D450	SLV-31DC3F	L.E.D.	ROHM	
	D451	SLV-31DC3F	L.E.D.	ROHM	
	D452	SLV-31DC3F	L.E.D.	ROHM	
	D453	SLV-31DC3F	L.E.D.	ROHM	
	D454	SLV-31DC3F	L.E.D.	ROHM	
	D455	SLR-34VC3F	L.E.D.	ROHM	
	D456	SLR-34DC3F	L.E.D.	ROHM	
	D457	SLR-34DC3F	L.E.D.	ROHM	
	D458	SLR-34DC3F	L.E.D.	ROHM	
	D459	SLR-34DC3F	L.E.D.	ROHM	
	D460	SLR-34DC3F	L.E.D.	ROHM	
	D461	SLR-34DC3F	L.E.D.	ROHM	
	D462	SLR-34DC3F	L.E.D.	ROHM	
	D463	SLR-34DC3F	L.E.D.	ROHM	
	D464	SLR-34DC3F	L.E.D.	ROHM	
	D465	1SS133	SILICON	ROHM	
	D466	1SS133	SILICON	ROHM	
	D467	1SS133	SILICON	ROHM	
	D468	1SS133	SILICON	ROHM	
	D501	MTZ6.8JC	ZENER	ROHM	
	D502	MTZ6.8JC	ZENER	ROHM	
	D601	SLR-34VC3F	L.E.D.	ROHM	
	D602	SLR-34VC3F	L.E.D.	ROHM	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C401	QETB1HM-225	2.2MF	50V	ELECTRO	
	C402	QETB1HM-106H	10MF	50V	ELECTRO	
	C403	QETB1HM-106	10MF	50V	ELECTRO	
	C404	QETB1HM-225	2.2MF	50V	ELECTRO	
	C405	QETBOJM-478E	4700MF	6.3V	ELECTRO	
	C406	QCF21HP-223	0.022MF	50V	CERAMIC	
	C407	QETB1AM-107	100MF	10V	ELECTRO	
	C441	QEK61EM-106	10MF	25V	ELECTRO	
	C442	QEK61EM-106	10MF	25V	ELECTRO	
	C443	QEK61EM-106	10MF	25V	ELECTRO	
	C444	QEK61EM-106	10MF	25V	ELECTRO	
	C445	QEK61HM-475	4.7MF	50V	ELECTRO	
	C446	QEK61HM-475	4.7MF	50V	ELECTRO	
	C447	QEK61CM-226ZM	22MF	16V	ELECTRO	
	C501	QETB1HM-475	4.7MF	50V	ELECTRO	
	C502	QETB1HM-475	4.7MF	50V	ELECTRO	
	C503	QCS21HJ-470	47PF	50V	CERAMIC	
	C504	QCS21HJ-470	47PF	50V	CERAMIC	
	C505	QCS21HJ-101	100PF	50V	CERAMIC	
	C506	QCS21HJ-101	100PF	50V	CERAMIC	
	C507	QETB1HM-475	4.7MF	50V	ELECTRO	
	C508	QETB1HM-475	4.7MF	50V	ELECTRO	
	C509	QETB1HM-475	4.7MF	50V	ELECTRO	
	C510	QETB1HM-475	4.7MF	50V	ELECTRO	
	C511	QCS21HJ-271	270PF	50V	CERAMIC	
	C512	QCS21HJ-271	270PF	50V	CERAMIC	
	C513	QFN81HJ-472	4700PF	50V	MYLAR	
	C514	QFN81HJ-472	4700PF	50V	MYLAR	
	C515	QCS21HJ-681	680PF	50V	CERAMIC	
	C516	QCS21HJ-681	680PF	50V	CERAMIC	
	C517	QFN81HJ-103	0.01MF	50V	MYLAR	
	C518	QFN81HJ-103	0.01MF	50V	MYLAR	
	C519	QFN81HJ-182	1800PF	50V	MYLAR	
	C520	QFN81HJ-182	1800PF	50V	MYLAR	
	C521	QFN81HJ-273	0.027MF	50V	MYLAR	
	C522	QFN81HJ-273	0.027MF	50V	MYLAR	
	C523	QFN81HJ-392	3900PF	50V	MYLAR	
	C524	QFN81HJ-392	3900PF	50V	MYLAR	
	C525	QFN81HJ-683	0.068MF	50V	MYLAR	
	C526	QFN81HJ-683	0.068MF	50V	MYLAR	
	C527	QFN81HJ-103	0.01MF	50V	MYLAR	
	C528	QFN81HJ-103	0.01MF	50V	MYLAR	
	C529	QFV81HJ-154	0.15MF	50V	T.FILM	
	C530	QFV81HJ-154	0.15MF	50V	T.FILM	
	C531	QFN81HJ-223	0.022MF	50V	MYLAR	
	C532	QFN81HJ-223	0.022MF	50V	MYLAR	
	C533	QETB1HM-474	0.47MF	50V	ELECTRO	
	C534	QETB1HM-474	0.47MF	50V	ELECTRO	
	C535	QFN81HJ-683	0.068MF	50V	MYLAR	
	C536	QFN81HJ-683	0.068MF	50V	MYLAR	
	C537	QETB1HM-105	1MF	50V	ELECTRO	
	C538	QETB1HM-105	1MF	50V	ELECTRO	
	C539	QCS21HJ-470	47PF	50V	CERAMIC	
	C540	QCS21HJ-470	47PF	50V	CERAMIC	
	C541	QETB1HM-475	4.7MF	50V	ELECTRO	
	C542	QETB1HM-475	4.7MF	50V	ELECTRO	
	C543	QETB1HM-475	4.7MF	50V	ELECTRO	
	C544	QETB1HM-475	4.7MF	50V	ELECTRO	
	C545	QETB1HM-475	4.7MF	50V	ELECTRO	
	C546	QETB1HM-475	4.7MF	50V	ELECTRO	
	C601	QCF21HP-223	0.022MF	50V	CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R401	QRD161J-222	2.2K	1/6W	CARBON	
	R402	QRD161J-472	4.7K	1/6W	CARBON	
	R403	QRD161J-103	10K	1/6W	CARBON	
	R404	QRD161J-223	22K	1/6W	CARBON	
	R405	QRD161J-473	47K	1/6W	CARBON	
	R406	QRD161J-223	22K	1/6W	CARBON	
	R407	QRD161J-102	1K	1/6W	CARBON	
	R408	QRD161J-472	4.7K	1/6W	CARBON	
	R409	QRD161J-331	330	1/6W	CARBON	
	R410	QRD161J-271	270	1/6W	CARBON	
	R411	QRD161J-104	100K	1/6W	CARBON	
	R412	QRD161J-104	100K	1/6W	CARBON	
	R413	QRD161J-104	100K	1/6W	CARBON	
	R414	QRD161J-104	100K	1/6W	CARBON	
	R415	QRD161J-103	10K	1/6W	CARBON	
	R416	QRD161J-473	47K	1/6W	CARBON	
	R417	QRD161J-223	22K	1/6W	CARBON	
	R418	QRD161J-103	10K	1/6W	CARBON	
	R419	QRD161J-183	18K	1/6W	CARBON	
	R420	QRD161J-103	10K	1/6W	CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R421	QRD161J-471	470	1/6W	CARBON	
	R422	QRD161J-151	150	1/6W	CARBON	
	R423	QRD161J-473	47K	1/6W	CARBON	
	R424	QRD161J-104	100K	1/6W	CARBON	
	R425	QRD161J-103	10K	1/6W	CARBON	
	R426	QRD161J-103	10K	1/6W	CARBON	
	R441	QRD161J-104	100K	1/6W	CARBON	
	R442	QRD161J-104	100K	1/6W	CARBON	
	R443	QRD161J-104	100K	1/6W	CARBON	
	R444	QRD161J-104	100K	1/6W	CARBON	
	R445	QRD161J-104	100K	1/6W	CARBON	
	R446	QRD161J-104	100K	1/6W	CARBON	
	R447	QRD161J-151	150	1/6W	CARBON	
	R448	QRD161J-151	150	1/6W	CARBON	
	R449	QRD161J-151	150	1/6W	CARBON	
	R450	QRD161J-151	150	1/6W	CARBON	
	R451	QRD161J-151	150	1/6W	CARBON	
	R452	QRD161J-151	150	1/6W	CARBON	
	R453	QRD161J-151	150	1/6W	CARBON	
	R454	QRD161J-151	150	1/6W	CARBON	
	R455	QRD161J-151	150	1/6W	CARBON	
	R456	QRD161J-151	150	1/6W	CARBON	
	R457	QRD161J-471	470	1/6W	CARBON	
	R458	QRD161J-471	470	1/6W	CARBON	
	R459	QRD161J-103	10K	1/6W	CARBON	
	R460	QRD161J-103	10K	1/6W	CARBON	
	R461	QRD161J-152	1.5K	1/6W	CARBON	
	R462	QRD161J-152	1.5K	1/6W	CARBON	
	R463	QRD161J-272	2.7K	1/6W	CARBON	
	R464	QRD161J-272	2.7K	1/6W	CARBON	
	R501	QRD161J-513	51K	1/6W	CARBON	
	R502	QRD161J-513	51K	1/6W	CARBON	
	R505	QRD161J-105	1M	1/6W	CARBON	
	R506	QRD161J-105	1M	1/6W	CARBON	
	R507	QRD161J-472	4.7K	1/6W	CARBON	
	R508	QRD161J-472	4.7K	1/6W	CARBON	
	R509	QRD161J-822	8.2K	1/6W	CARBON	
	R510	QRD161J-822	8.2K	1/6W	CARBON	
	R511	QRD161J-822	8.2K	1/6W	CARBON	
	R512	QRD161J-822	8.2K	1/6W	CARBON	
	R513	QRD161J-224	220K	1/6W	CARBON	
	R514	QRD161J-224	220K	1/6W	CARBON	
⚠	R515	QRD14CJ-680S	68	1/4W	UNF.CARBON	

Resistors

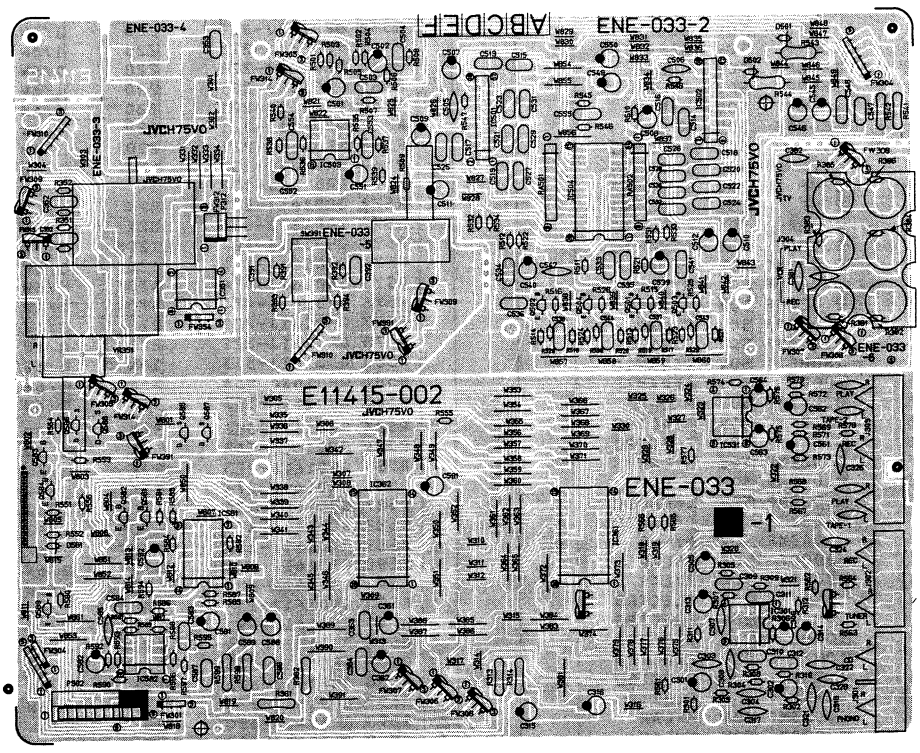
⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R516	QRD14CJ-680S	68	1/4W	UNF.CARBON	
⚠	R517	QRD125J-331	330	1/2W	UNF.CARBON	
⚠	R518	QRD125J-331	330	1/2W	UNF.CARBON	
	R601	QRD161J-151	150	1/6W	CARBON	
	R602	QRD161J-151	150	1/6W	CARBON	
	R603	QRD161J-104	100K	1/6W	CARBON	
	VR501	QVUB01W-EF5D			VARIABLE	
	VR502	QVUB01W-EF5D			VARIABLE	
	VR503	QVUB01W-EF5D			VARIABLE	
	VR504	QVUB01W-EF5D			VARIABLE	
	VR505	QVUB01W-EF5D			VARIABLE	
	VR506	QVUB01W-EF5D			VARIABLE	
	VR507	QVUB01W-EF5D			VARIABLE	

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11421-002	C.BOARD	
		E304563-001	LED HOLDER	
		E70225-001	EARTH PLATE	
	J401	QMS3533-001	JACK ASSY	
	P304	EMV7112-003	SOCKET	
	P305	EMV7112-003	SOCKET	
	P314	EMV7112-003	SOCKET	
	P 401	EMV5103-002A	PLUG ASSY	
	P 402	EMV7112-007	SOCKET	
	P 404	EMV7112-003	SOCKET	
	P 405	EMV7112-005	SOCKET	
	P 406	EMV7112-007	SOCKET	
	P 407	EMV7112-008	SOCKET	
	RE401	ECX0004-194KM	RESONATOR	
	SW401	ESP0001-010	PUSH SWITCH	
	SW441	ESP0001-007	PUSH SWITCH	
	SW442	ESP0001-007	PUSH SWITCH	
	SW443	ESP0001-007	PUSH SWITCH	
	SW444	ESP0001-007	PUSH SWITCH	
	SW445	ESP0001-007	PUSH SWITCH	
	SW446	ESP0001-007	PUSH SWITCH	
	SW447	ESP0001-007	PUSH SWITCH	
	SW448	ESP0001-007	PUSH SWITCH	
	SW449	ESP0001-007	PUSH SWITCH	
	SW450	ESP0001-007	PUSH SWITCH	
	SW451	ESP0001-007	PUSH SWITCH	

⚠ : SAFETY PARTS

■ ENE-033C Analog Switch & Pin Jack PC Board Ass'y



Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	Q581	DTA114YN	SILICON	ROHM	
	Q582	DTC144EN	SILICON	ROHM	
	Q583	DTC144EN	SILICON	ROHM	
	Q584	DTA114YN	SILICON	ROHM	
	Q585	2SK105(H)	F.E.T	NEC	
	Q586	2SK105(H)	F.E.T	NEC	
	Q587	2SK105(H)	F.E.T	NEC	
	Q588	2SK105(H)	F.E.T	NEC	
	Q589	DTC144EN	SILICON	ROHM	

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	IC301	NJM4558D-D	I.C.	JRC	
	IC351	LB1639	I.C.	SANYO	
	IC361	TC9164N	I.C.	TOSHIBA	
	IC362	TC9162N	I.C.	TOSHIBA	
	IC531	M5218P	I.C.	MITSUBISHI	
	IC581	LC4966	I.C.	SANYO	
	IC582	M5218P	I.C.	MITSUBISHI	

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D581	1SS133	SILICON	ROHM	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C301	QETB1HM-475	4.7MF	50V	ELECTRO	
	C302	QETB1HM-475	4.7MF	50V	ELECTRO	
	C303	QCS21HJ-101	100PF	50V	CERAMIC	
	C304	QCS21HJ-101	100PF	50V	CERAMIC	
	C305	QETB1AM-476	47MF	10V	ELECTRO	
	C306	QETB1AM-476	47MF	10V	ELECTRO	
	C307	QCS21HJ-101	100PF	50V	CERAMIC	
	C308	QCS21HJ-101	100PF	50V	CERAMIC	
	C309	QFN81HJ-182	1800PF	50V	MYLAR	
	C310	QFN81HJ-182	1800PF	50V	MYLAR	
	C311	QFN81HJ-682	6800PF	50V	MYLAR	
	C312	QFN81HJ-682	6800PF	50V	MYLAR	
	C313	QETB1HM-475	4.7MF	50V	ELECTRO	
	C314	QETB1HM-475	4.7MF	50V	ELECTRO	
	C315	QETB1EM-226	22MF	25V	ELECTRO	
	C316	QETB1EM-226	22MF	25V	ELECTRO	
	C317	QCS21HJ-101	100PF	50V	CERAMIC	
	C318	QCS21HJ-101	100PF	50V	CERAMIC	
	C321	QFN81HJ-223	0.022MF	50V	MYLAR	
	C322	QFN81HJ-223	0.022MF	50V	MYLAR	
	C324	QFN81HJ-223	0.022MF	50V	MYLAR	
	C326	QFN81HJ-223	0.022MF	50V	MYLAR	
	C328	QFV81HJ-473	0.047MF	50V	T.FILM	
	C351	QCS21HJ-181	180PF	50V	CERAMIC	
	C352	QCS21HJ-181	180PF	50V	CERAMIC	
	C353	QFN81HJ-473	0.047MF	50V	MYLAR	
	C361	QETB1EM-476	47MF	25V	ELECTRO	
	C362	QETB1EM-476	47MF	25V	ELECTRO	
	C363	QFN81HJ-223	0.022MF	50V	MYLAR	
	C364	QFN81HJ-223	0.022MF	50V	MYLAR	
	C381	QCF21HP-223	0.022MF	50V	CERAMIC	
	C382	QCF21HP-223	0.022MF	50V	CERAMIC	
	C384	QFN81HJ-473	0.047MF	50V	MYLAR	
	C391	QFN81HJ-682	6800PF	50V	MYLAR	
	C392	QFN81HJ-682	6800PF	50V	MYLAR	
	C561	QETB1EM-106	10MF	25V	ELECTRO	
	C562	QETB1EM-106	10MF	25V	ELECTRO	
	C563	QETB1EM-106	10MF	25V	ELECTRO	
	C564	QETB1EM-106	10MF	25V	ELECTRO	
	C581	QETB1HM-475	4.7MF	50V	ELECTRO	
	C582	QETB1HM-475	4.7MF	50V	ELECTRO	
	C583	QFN81HJ-333	0.033MF	50V	MYLAR	
	C584	QFN81HJ-472	4700PF	50V	MYLAR	
	C585	QCS21HJ-271	270PF	50V	CERAMIC	
	C586	QFN81HJ-223	0.022MF	50V	MYLAR	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C587	QFN81HJ-223	0.022MF	50V	MYLAR	
	C588	QETB1EM-106	10MF	25V	ELECTRO	
	C589	QETB1EM-106	10MF	25V	ELECTRO	
	C591	QETB1HM-475	4.7MF	50V	ELECTRO	
	C592	QETB1HM-475	4.7MF	50V	ELECTRO	

Resistors

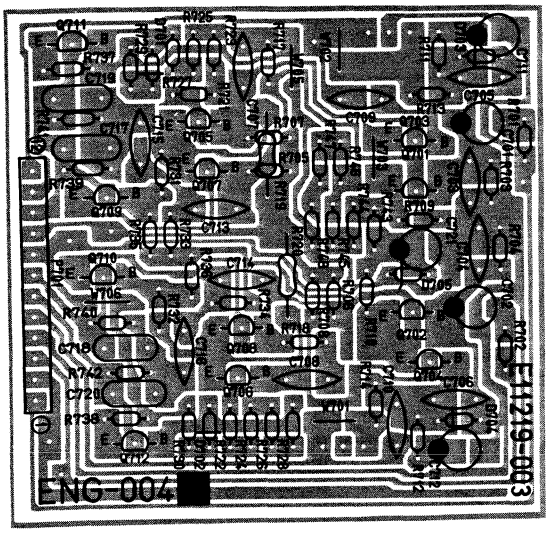
⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R301	QRD161J-222	2.2K	1/6W	CARBON	
	R302	QRD161J-222	2.2K	1/6W	CARBON	
	R303	QRD161J-473	47K	1/6W	CARBON	
	R304	QRD161J-473	47K	1/6W	CARBON	
	R305	QRD161J-561	560	1/6W	CARBON	
	R306	QRD161J-561	560	1/6W	CARBON	
	R307	QRD161J-393	39K	1/6W	CARBON	
	R308	QRD161J-393	39K	1/6W	CARBON	
	R309	QRD161J-474	470K	1/6W	CARBON	
	R310	QRD161J-474	470K	1/6W	CARBON	
	R311	QRD161J-104	100K	1/6W	CARBON	
	R312	QRD161J-104	100K	1/6W	CARBON	
⚠	R313	QRD14CJ-680S	68	1/4W	UNF.CARBON	
⚠	R314	QRD14CJ-680S	68	1/4W	UNF.CARBON	
	R351	QRD161J-105	1M	1/6W	CARBON	
	R352	QRD161J-105	1M	1/6W	CARBON	
⚠	R361	QRD14CJ-680S	68	1/4W	UNF.CARBON	
⚠	R362	QRD14CJ-680S	68	1/4W	UNF.CARBON	
	R381	QRD161J-221	220	1/6W	CARBON	
	R382	QRD161J-221	220	1/6W	CARBON	
	R383	QRD161J-221	220	1/6W	CARBON	
	R384	QRD161J-221	220	1/6W	CARBON	
	R385	QRD161J-221	220	1/6W	CARBON	
	R386	QRD161J-221	220	1/6W	CARBON	
	R391	QRD161J-683	68K	1/6W	CARBON	
	R392	QRD161J-683	68K	1/6W	CARBON	
	R393	QRD161J-363	36K	1/6W	CARBON	
	R394	QRD161J-363	36K	1/6W	CARBON	
	R551	QRD161J-103	10K	1/6W	CARBON	
	R552	QRD161J-823	82K	1/6W	CARBON	
	R553	QRD161J-103	10K	1/6W	CARBON	
	R554	QRD161J-103	10K	1/6W	CARBON	
	R555	QRD161J-332	3.3K	1/6W	CARBON	
	R556	QRD161J-332	3.3K	1/6W	CARBON	
	R561	QRD161J-221	220	1/6W	CARBON	
	R562	QRD161J-221	220	1/6W	CARBON	
	R563	QRD161J-221	220	1/6W	CARBON	
	R564	QRD161J-221	220	1/6W	CARBON	
	R565	QRD161J-221	220	1/6W	CARBON	
	R566	QRD161J-221	220	1/6W	CARBON	
	R567	QRD161J-221	220	1/6W	CARBON	
	R568	QRD161J-221	220	1/6W	CARBON	
	R569	QRD161J-102	1K	1/6W	CARBON	
	R570	QRD161J-102	1K	1/6W	CARBON	
	R571	QRD161J-823	82K	1/6W	CARBON	
	R572	QRD161J-823	82K	1/6W	CARBON	
	R573	QRD161J-124	120K	1/6W	CARBON	
	R574	QRD161J-124	120K	1/6W	CARBON	
	R575	QRD161J-474	470K	1/6W	CARBON	
	R576	QRD161J-474	470K	1/6W	CARBON	
	R577	QRD161J-221	220	1/6W	CARBON	
	R578	QRD161J-221	220	1/6W	CARBON	
	R580	QRD161J-563	56K	1/6W	CARBON	
	R581	QRD161J-563	56K	1/6W	CARBON	
	R582	QRD161J-563	56K	1/6W	CARBON	
	R583	QRD161J-563	56K	1/6W	CARBON	
	R584	QRD161J-563	56K	1/6W	CARBON	
	R585	QRD161J-223	22K	1/6W	CARBON	
	R586	QRD161J-273	27K	1/6W	CARBON	
	R587	QRD161J-474	470K	1/6W	CARBON	
	R588	QRD161J-474	470K	1/6W	CARBON	
	R589	QRD161J-223	22K	1/6W	CARBON	
	R590	QRD161J-474	470K	1/6W	CARBON	
	R591	QRD161J-104	100K	1/6W	CARBON	
	R592	QRD161J-154	150K	1/6W	CARBON	
	R593	QRD161J-394	390K	1/6W	CARBON	
	R594	QRD161J-474	470K	1/6W	CARBON	
	R595	QRD161J-333	33K	1/6W	CARBON	
	R596	QRD161J-683	68K	1/6W	CARBON	
	R597	QRD161J-273	27K	1/6W	CARBON	
⚠	R598	QRD14CJ-680S	68	1/4W	UNF.CARBON	
⚠	R599	QRD14CJ-680S	68	1/4W	UNF.CARBON	
	VR351	QVDB91B-EF5B			VARIABLE	
	VR391	QVDA98W-EF5B			VARIABLE	

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11415-003	C.BOARD	
		E73837-001	FOR VOLUME	
		FE-ZMS409	SHIELD RING	
		SBST3006Z	TH.TAP.SCREW	
	J301	EMN00TV-405A	PIN JACK ASSY	
	J302	EMN00TV-602A	PIN JACK ASSY	
	J303	EMN00TV-402A	PIN JACK ASSY	
	J304	EMN00TP-602A	PIN JACK ASSY	
	P302	EMV7112-006	SOCKET	
	P312	QMV5004-003K	PULAG ASSY	
	SW391	QST4102-E08	PUSH SWITCH	

■ ENG-004M Pre-Drive PC Board Ass'y



Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
				MAKER	
	Q701	2SC2240(A/B)	SILICON	TOSHIBA	
	Q702	2SC2240(A/B)	SILICON	TOSHIBA	
	Q703	2SC2240(A/B)	SILICON	TOSHIBA	
	Q704	2SC2240(A/B)	SILICON	TOSHIBA	
	Q705	2SA1038(S/E)	SILICON	ROHM	
	Q706	2SA1038(S/E)	SILICON	ROHM	
	Q707	2SA933LN(R/S)	SILICON	ROHM	
	Q708	2SA933LN(R/S)	SILICON	ROHM	
	Q709	2SA1038(S/E)	SILICON	ROHM	
	Q710	2SA1038(S/E)	SILICON	ROHM	
	Q711	2SC2389(S/E)	SILICON	ROHM	
	Q712	2SC2389(S/E)	SILICON	ROHM	

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
				MAKER	
	D701	1SS133	SILICON	ROHM	
	D702	1SS133	SILICON	ROHM	
	D705	MTZ22JC	ZENER	ROHM	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C701	EEZ1601-226	22MF	16V	ELECTRO	
	C702	EEZ1601-226	22MF	16V	ELECTRO	
	C703	QCS21HJ-271	270PF	50V	CERAMIC	
	C704	QCS21HJ-271	270PF	50V	CERAMIC	
	C705	QCS21HJ-101	100PF	50V	CERAMIC	
	C706	QCS21HJ-101	100PF	50V	CERAMIC	
	C707	QCY21HK-332	3300PF	50V	CERAMIC	
	C708	QCY21HK-332	3300PF	50V	CERAMIC	
	C709	QCS21HJ-7R0	7.0PF	50V	CERAMIC	
	C710	QCS21HJ-7R0	7.0PF	50V	CERAMIC	
	C711	QEHC1CM-476	47MF	16V	ELECTRO	
	C712	QEHC1CM-476	47MF	16V	ELECTRO	
	C713	QCS21HJ-220	22PF	50V	CERAMIC	
	C714	QCS21HJ-220	22PF	50V	CERAMIC	
	C715	QCS21HJ-121	120PF	50V	CERAMIC	
	C716	QCS21HJ-121	120PF	50V	CERAMIC	
	C717	QFN81HJ-822	8200PF	50V	MYLAR	
	C718	QFN81HJ-822	8200PF	50V	MYLAR	
	C719	QFN81HJ-822	8200PF	50V	MYLAR	
	C720	QFN81HJ-822	8200PF	50V	MYLAR	
	C721	QEHC1EM-106	10MF	25V	ELECTRO	

Resistors

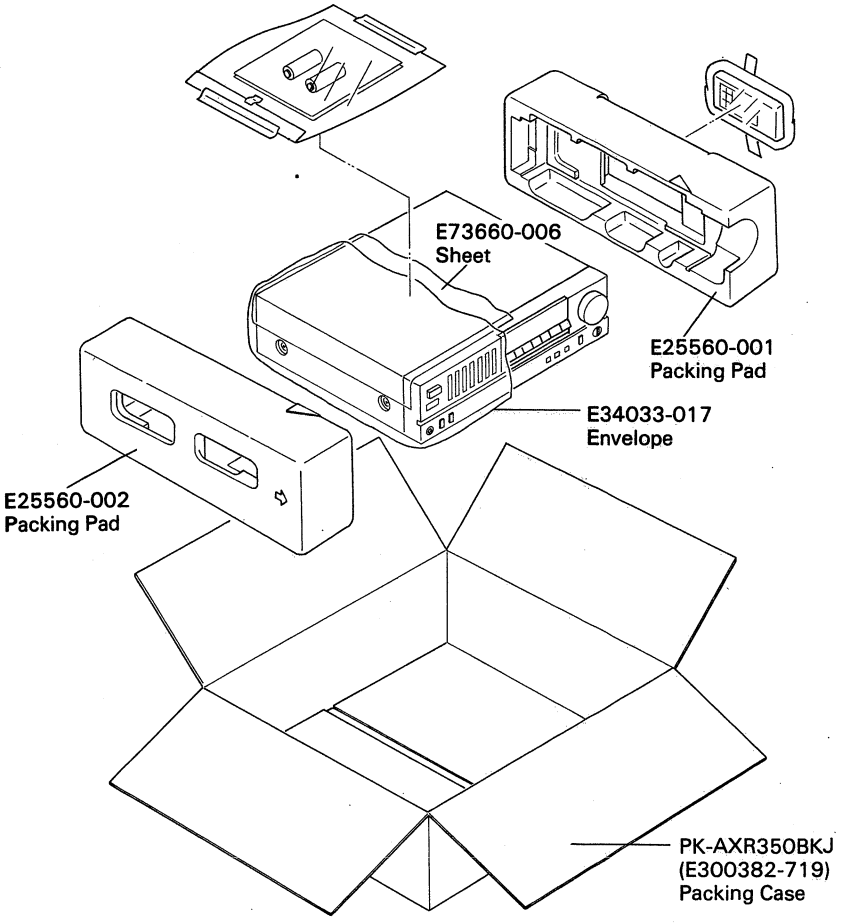
⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R701	QRD161J-222	2.2K	1/6W	CARBON	
	R702	QRD161J-222	2.2K	1/6W	CARBON	
	R703	QRD161J-104	100K	1/6W	CARBON	
	R704	QRD161J-104	100K	1/6W	CARBON	
	R705	QRD161J-202	2K	1/6W	CARBON	
	R706	QRD161J-202	2K	1/6W	CARBON	
	R707	QRD161J-202	2K	1/6W	CARBON	
	R708	QRD161J-202	2K	1/6W	CARBON	
	R709	QRD161J-103	10K	1/6W	CARBON	
	R710	QRD161J-103	10K	1/6W	CARBON	
	R711	QRD161J-681	680	1/6W	CARBON	
	R712	QRD161J-681	680	1/6W	CARBON	
	R713	QRD161J-104	100K	1/6W	CARBON	
	R714	QRD161J-104	100K	1/6W	CARBON	
	R717	QRD161J-101	100	1/6W	CARBON	
	R718	QRD161J-101	100	1/6W	CARBON	
⚠	R719	QRD145J-201S	200	1/4W	UNF.CARBON	
⚠	R720	QRD145J-201S	200	1/4W	UNF.CARBON	
	R723	QRD144J-822S	8.2K	1/4W	CARBON	
	R724	QRD144J-822S	8.2K	1/4W	CARBON	
	R727	QRD144J-822S	8.2K	1/4W	CARBON	
	R728	QRD144J-822S	8.2K	1/4W	CARBON	
	R729	QRD161J-681	680	1/6W	CARBON	
	R730	QRD161J-681	680	1/6W	CARBON	
	R731	QRD161J-152	1.5K	1/6W	CARBON	
	R732	QRD161J-152	1.5K	1/6W	CARBON	
	R733	QRD161J-152	1.5K	1/6W	CARBON	
	R734	QRD161J-152	1.5K	1/6W	CARBON	
	R735	QRD161J-333	33K	1/6W	CARBON	
	R736	QRD161J-333	33K	1/6W	CARBON	
	R737	QRD161J-681	680	1/6W	CARBON	
	R738	QRD161J-681	680	1/6W	CARBON	
	R739	QRD161J-123	12K	1/6W	CARBON	
	R740	QRD161J-123	12K	1/6W	CARBON	
	R741	QRD161J-123	12K	1/6W	CARBON	
	R742	QRD161J-123	12K	1/6W	CARBON	
	R743	QRD161J-511	510	1/6W	CARBON	
	R744	QRD161J-511	510	1/6W	CARBON	
⚠	R745	QRD125J-182	1.8K	1/2W	UNF.CARBON	
	R747	QRD161J-511	510	1/6W	CARBON	
	R748	QRD161J-511	510	1/6W	CARBON	

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11219-003	C.BOARD	
	P701	EMV5101-012B	PLUG ASSY	

⚠ : SAFETY PARTS

Packing Materials and Part Numbers



Accessories List

⚠	Part Number	Part Name	Q'ty	Description	Areas
	E30580-1365A	Instruction Book	1		
	BT20048B	Warranty Card	1		J
	BT20025J	Warranty Card	1		C
	BT20044E	Safety Instruction Sheet	1		J
	BT20046C	Service Information	1		J
	BT20071A	Service Center	1		C
	E41202-2	Envelope	1		
	E66416-003	Envelope	1		J
	E72360-001	Caution Sheet	1		C
	RM-SA350	Remote Control	1		
	E73088-001	Bracket	1		
	UM-3(DJ)-2P	Battery	2		

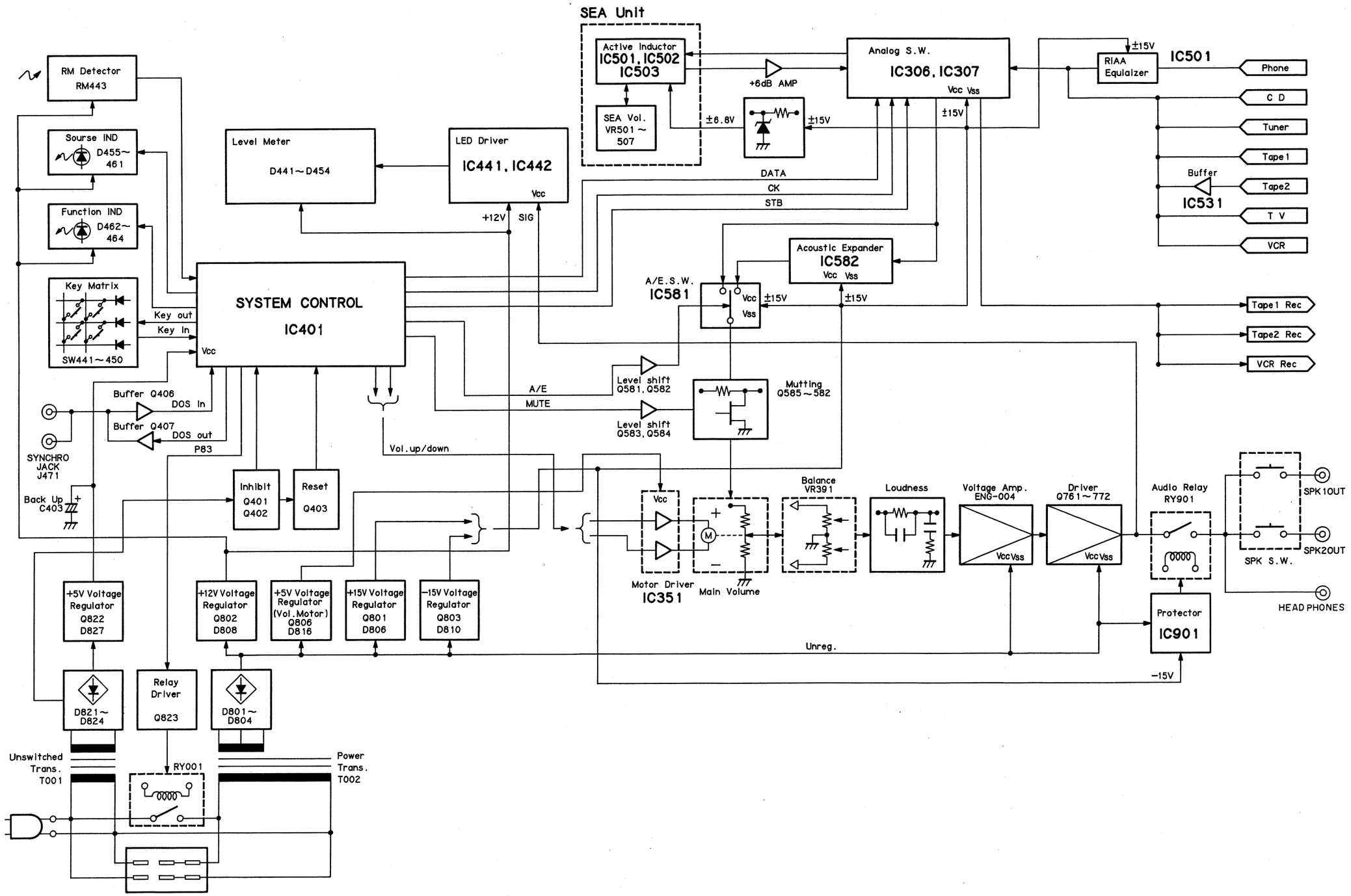
The Marks for Designated Areas.

J ..... U.S.A.

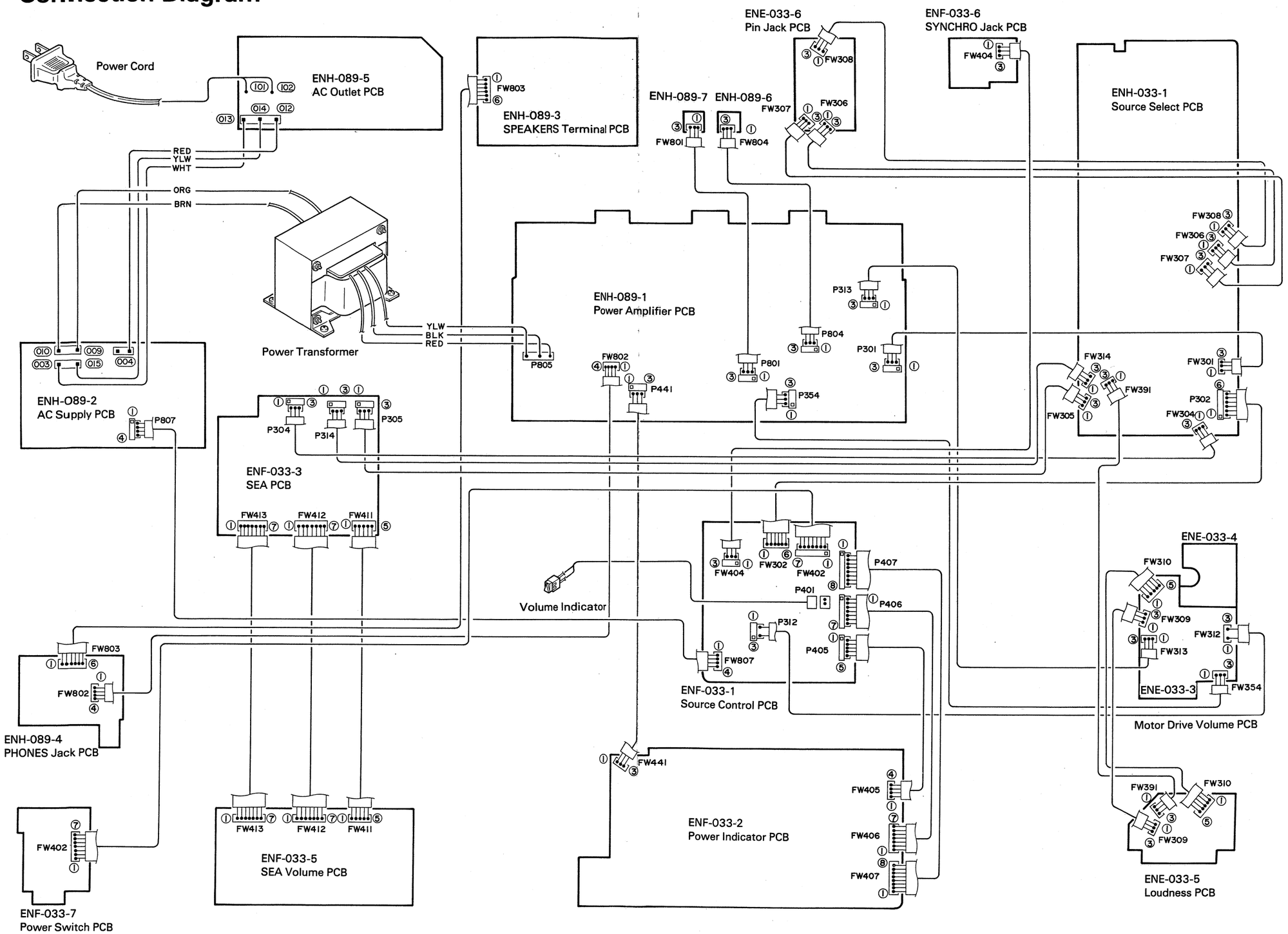
C ..... Canada

No mark indicated all areas.

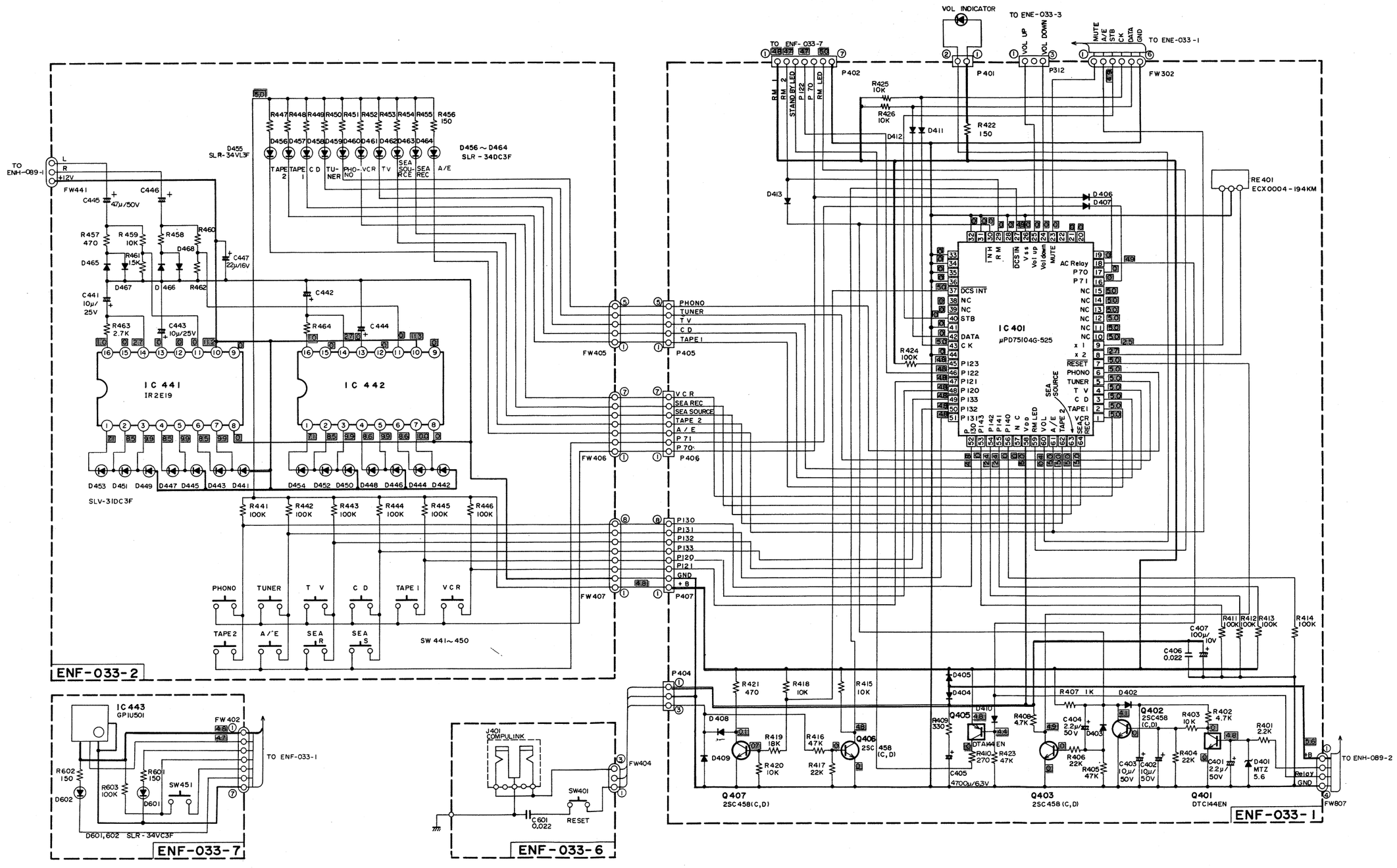
Block Diagram



Connection Diagram



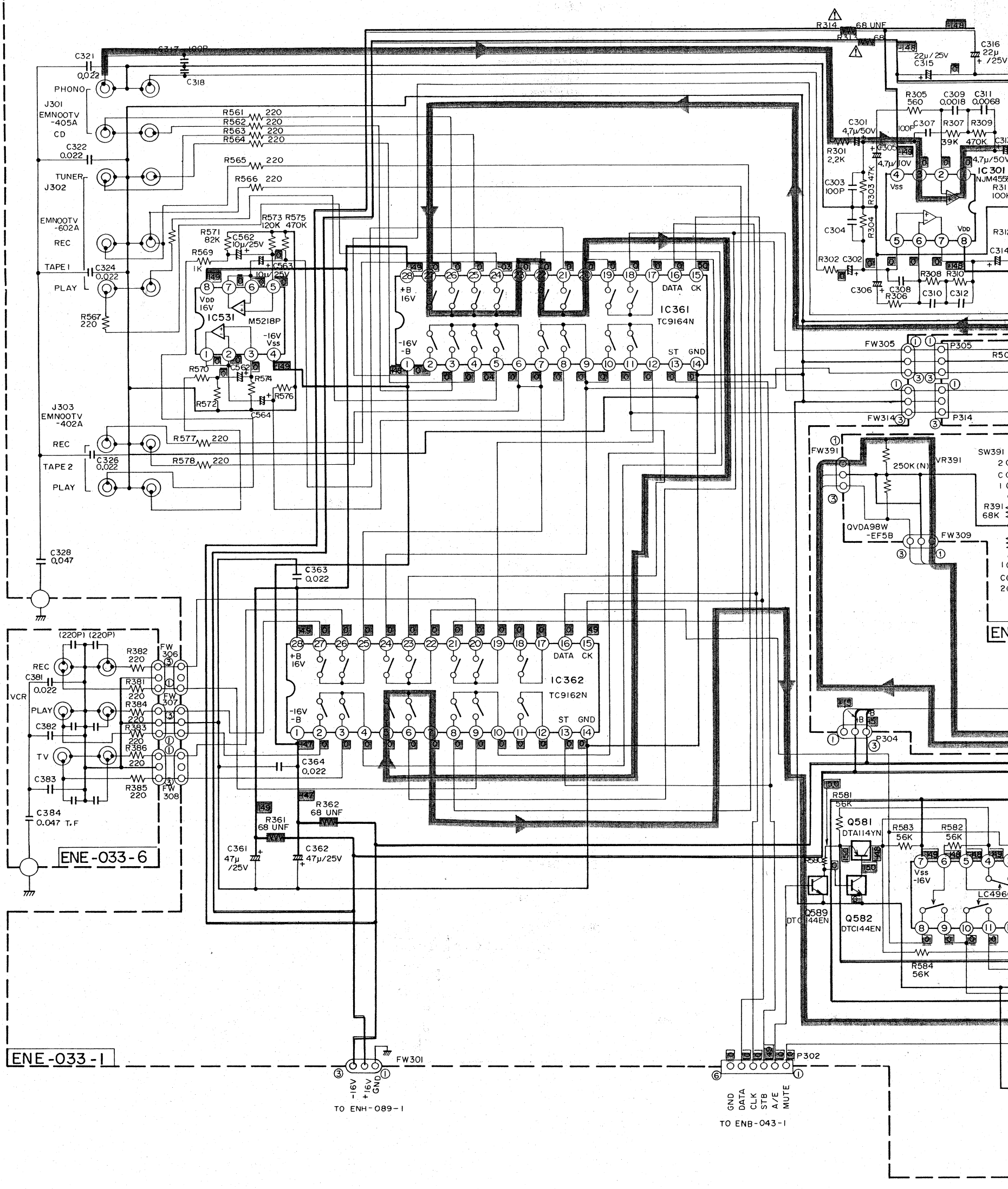
■ Front Control Section



Schematic Diagrams

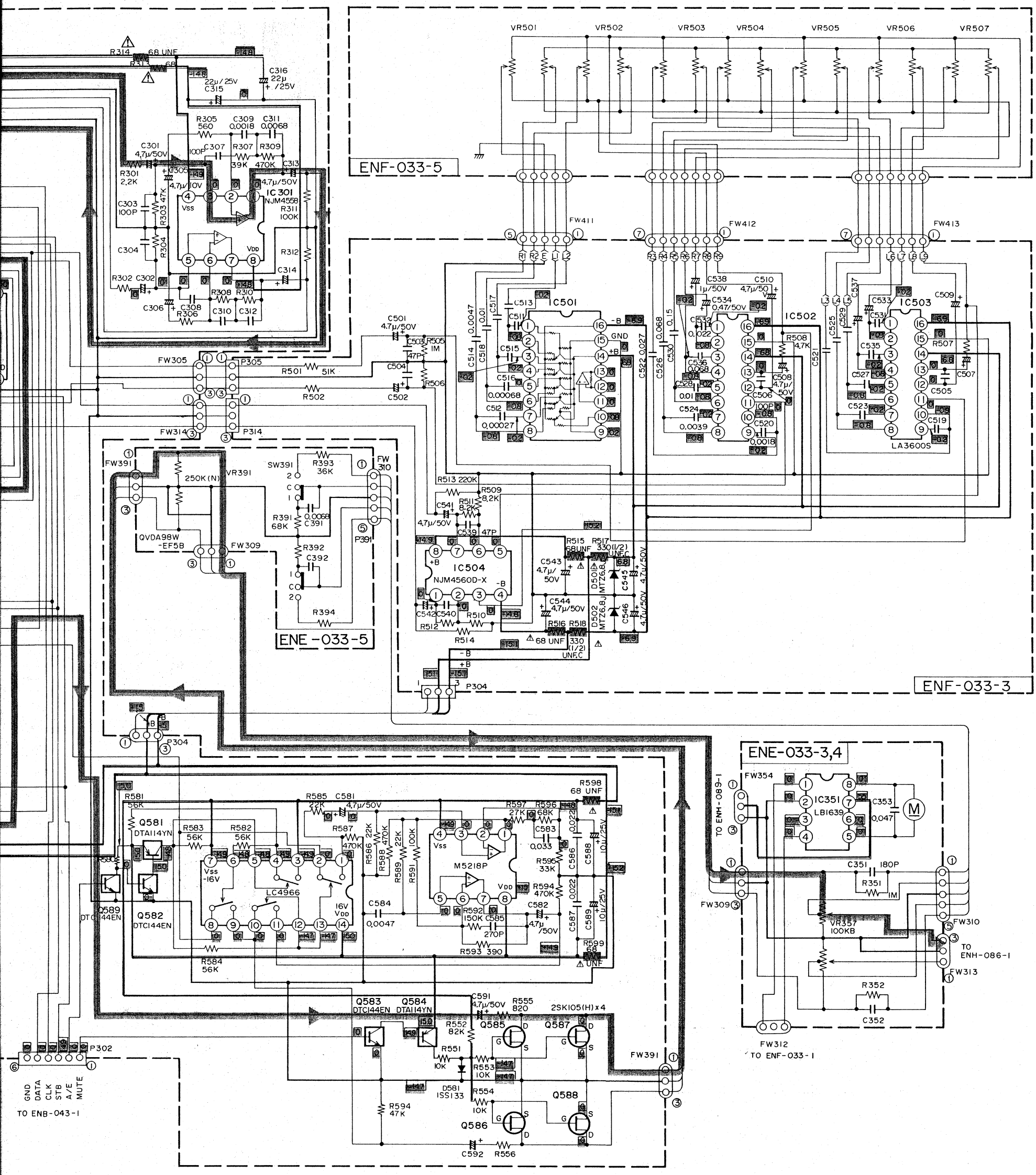
Notes:
1. shows D
2. —— indicate
3. indicate

■ Source Control Section



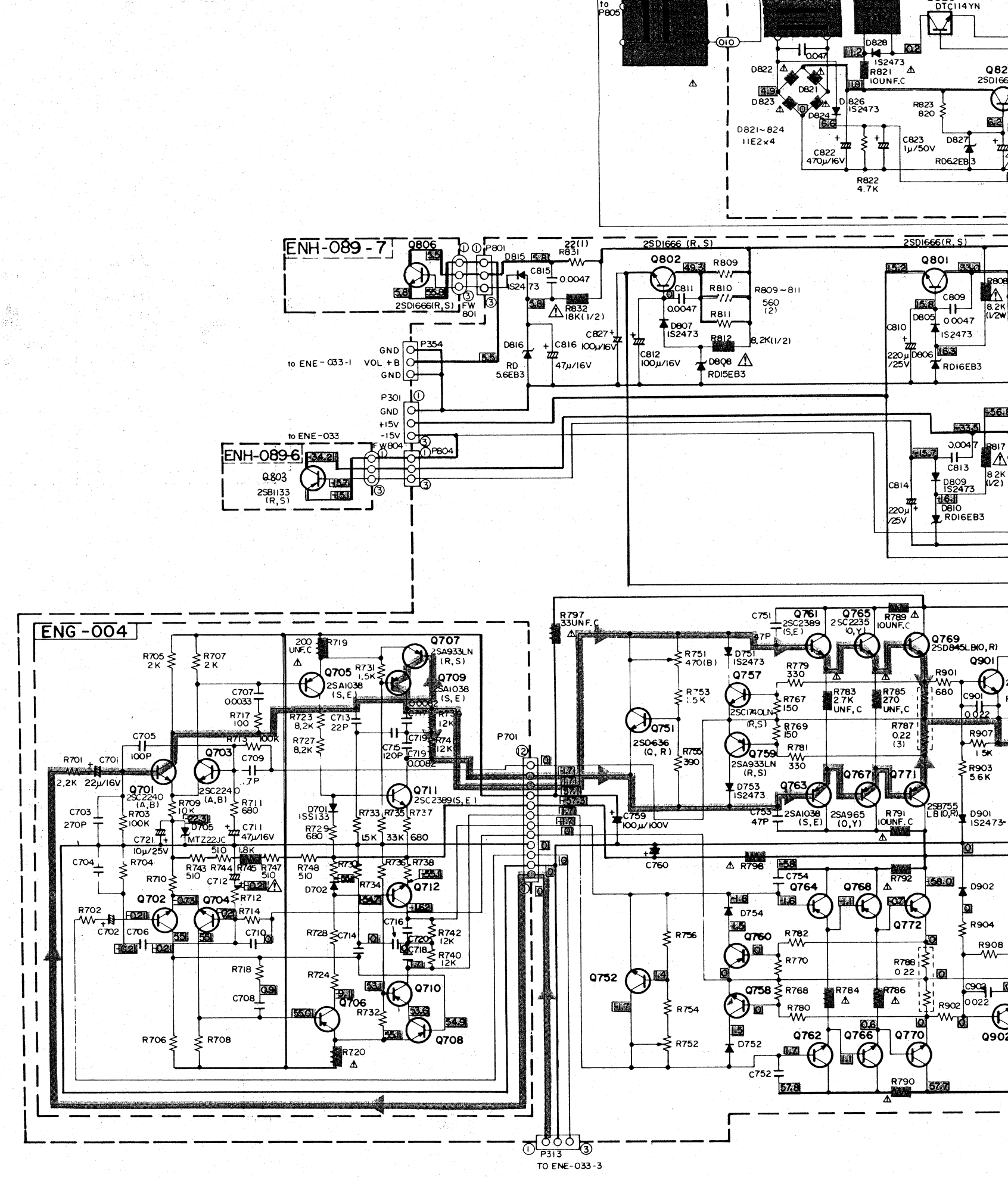
Notes:

1. ▓ shows DC voltage to the chassis with no signal input.
2. —— indicates ± B power supply.
3. ▒ indicates signal path.
4. When replacing the parts in the darkened area (▓) and those marked with ⚠, be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.
   The design and contents are subject to change without notice.



(No. 2964)

■ Power Amplifier Section



J (U.S.A.) & C (CANADA) AC120V, 60Hz